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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1990

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ON

H.R. 2696

AN ACT MAKING APPROPRIATIONS FOR ENERGY AND WATER DEVELOPMENT FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1990, AND FOR OTHER PURPOSES

PART 2 (Pages 1-1252)

NONDEPARTMENTAL WITNESSES

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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1990

TUESDAY, APRIL 4, 1989

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:05 a.m. in room SD–192, Dirksen Senate Office Building, Hon. J. Bennett Johnston (chairman) presiding.

Present: Senators Johnston, Bumpers, Adams, Mikulski, Hatfield, and Cochran.

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator JOHNSTON. It is delightful to see all of you here today. We are all old friends, and there are a few new faces out there, though not too many. Most of you have been around here a good bit before, and you are always welcome because you contributed so much to water policy and the infrastructure needs of this country.

We have a large number of witnesses who wish to be heard; therefore, in accordance with our notification to each of the witnesses it will really take some self-restraint on the part of everyone to hold oral testimony to a minimum in order that all of you who have requested an opportunity to be heard may be heard.

I ask that the detailed prepared statements which each of you have worked out very carefully, and which we will very carefully consider in this committee, be submitted for the record. We will then be able to review those at our leisure.

If each witness will then summarize or highlight the important points of his oral testimony, it would be most helpful. Remember that you might be impinging on your friend's time if you go over your time allotment. So I want to encourage everyone to stay within the time limits.

First, I want to include in the record a statement from my colleague, Jim Sasser, along with letters from Betty A. Tabatabai, chairperson for the Habitat of Inventory Committee of the Wolf River Conservancy, and a statement from Larry J. Smith, vice chair of the Sierra Club of Memphis. These will be put into the record at this time without objection.

[The statement follows:]

STATEMENT OF SENATOR JIM SASSER

MR. CHAIRMAN, I WOULD LIKE TO WELCOME BEFORE THE SUBCOMMITTEE TODAY THE REPRESENTATIVES OF THE LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION AND THE TENNESSEE-TOMBIGBEE WATERWAY DEVELOPMENT AUTHORITY. I HAVE WORKED CLOSELY WITH BOTH GROUPS OVER THE YEARS ON PROJECTS AFFECTING MY STATE, AND I HAVE BEEN VERY IMPRESSED WITH THEIR EFFORTS.

MR. CHAIRMAN, I WANT TO COMMENT ON A FLOOD CONTROL PROJECT THAT I KNOW IS OF CONCERN TO THE ASSOCIATION AND THAT IS OF PARTICULAR IMPORTANCE TO TENNESSEE. THE CORPS OF ENGINEERS CONSTRUCTED THE ENSLEY LEVEE IN MEMPHIS IN 1968, AND SINCE THAT TIME IT HAS BEEN PLAGUED WITH PROBLEMS. BECAUSE OF THE SANDY CONTENT OF THE SOIL, FLOODWATERS SEEP BENEATH THE LEVEE AND WEAKEN IT.

IN ORDER TO REMEDY THIS PROBLEM, A SEVEN MILE LONG LAND SEEPAGE BERM MUST BE CONSTRUCTED ALONG THE LEVEE. UNDER THE 1986 WATER QUALITY ACT, THE COST OF CERTAIN PROPOSED PROJECTS SUCH AS THE BERM MUST BE BORNE IN PART BY LOCAL GOVERNMENTS. HOWEVER, THE SEEPAGE PROBLEM HAS EXISTED SINCE THE CONSTRUCTION OF THE LEVEE, AND IT SHOULD THEREFORE BE CLASSIFIED AS A "PROJECT DEFICIENCY". UNDER THE ACT, THE FEDERAL GOVERNMENT MUST PAY THE

FULL COST OF REPAIRING A PROJECT DEFICIENCY. DESPITE THAT REQUIREMENT, THE MEMPHIS PORT AUTHORITY HAS EXPRESSED ITS WILLINGNESS TO CONTRIBUTE A PORTION OF THE COST OF REPAIRING THE LEVEE. I THEREFORE REPEAT MY REQUEST TO THE CORPS OF ENGINEERS THAT THEY WORK WITH THE PORT AUTHORITY TO COMPLETE THE BERM AS SOON AS POSSIBLE.

THE TENNESSEE-TOMBIGBEE WATER DEVELOPMENT AUTHORITY IS CONCERNED WITH ANOTHER PROJECT THAT IS OF IMPORTANCE TO MY STATE. THE AGING LOCKS ON THE TENNESSEE RIVER ABOVE CHATTANOOGA NEED TO BE EXPANDED. THESE SMALLER LOCKS MAKE TRANSPORTATION ALONG THE RIVER MORE DIFFICULT AND ARE HAMPERING THE ECONOMIC DEVELOPMENT OF THE AREA. I INTEND TO WORK WITH TVA AND THE CORPS TO SEE THAT THE EXPANSION IS COMPLETED.

FINALLY, I WANT TO COMMEND THESE TWO FINE ORGANIZATIONS AGAIN FOR THEIR CONTINUED GOOD WORK IN MY REGION. THANK YOU, MR. CHAIRMAN.

LETTER FROM BETTY A. TABATABAI, CHAIRPERSON, HABITAT INVENTORY COMMITTEE, WOLF RIVER CONSERVANCY

March 24, 1989

House Subcommittee on Energy and
Water Development
Commitee on Appropriations
Room H-218
Capitol Building
Washington D.C. 20515

To the Members of the Committee,

The Wolf River Conservancy is dedicated to the preservation of the ecological integrity of the Wolf River here in Shelby County Tennessee. The ravages of river channelization are known all too well here in West Tennessee. The increased erosion, wetland loss and threatened bridge collapses that wholesale river channelization causes, is something we all can do without.

This Committee has before it a request from the Memphis District of the U.S. Army Corps of Engineers for 1.4 million in funds to channelize the Sidonia section of the Obion River here in West Tennessee. This request should be denied because a Water Quality Permit can not obtained from the State of Tennessee. This is for good reason to, river channelization degrades water quality and does irreparable damage to the aquatic ecology as well as the areas hydrology. These funds should only be granted if the Stream Obstruction Removal Guidelines are used. These guidelines will allow the project to be completed and will not cause massive ecological damage. The State of Tennessee has said it will only grant a water quality permit if these guidelines are used. The Corps is already using these guidelines in Arkansas so there should be no problem in mandating them into the appropriations request.

Sincerely,

Betty A. Tabatabai

Betty A. Tabatabai
Chairperson Habitat Inventory Committee WRC

LETTER FROM LARRY J. SMITH, VICE CHAIR, SIERRA CLUB

March 24,1989

House Subcommittee on Energy and
Water Development
Committee on Appropriations
Room H-218
Capitol Building
Washington D.C. 20515

To the Members of the Committee,

This letter is to urge in the strongest possible way, that any funds requested by the Memphis District of the U.S. Army Corps of Engineers for the West Tennessee Tributaries Project for wholesale channelization be cancelled. This Committee has before it a request for 1.4 million dollars to channelize the Sidonia Section of the Obion River , here in Tennessee. This request for funds should be denied unless the Corps agrees to use the Stream Obstruction Removal Guidelines to carry out the work. These guidelines will allow for flood relief and will not cause the long term ecological damage that river channelization can cause. Again, No funds should be authorized for channelization.

Sincerely

Larry J. Smith
Vice Chair SIERRA Club Memphis

ARKANSAS WATER RESOURCE PROJECTS

STATEMENT OF HON. DAVID PRYOR, U.S. SENATOR FROM ARKANSAS

Senator JOHNSTON. I understand Senator Pryor has just arrived on the scene. Senator Pryor is very highly regarded by this committee, and we want to hear from him immediately. I can guarantee we will do probably exactly what he wants to. [Laughter.]

Senator Pryor.

Senator PRYOR. I do not know how to follow that, Senator Johnston. It is my honor.

Mr. Chairman, I will not read my statement. I do ask unanimous consent that the statement be placed in the record.

It is a great honor for me to be here for the 11th consecutive year speaking on behalf of several of our groups in the State of Arkansas and some that I might say, Mr. Chairman, affect significantly your home State of Louisiana.

For example, one of the groups that we will be hearing from is the Red River Valley Association, the Ouachita River Valley Association, the Lower Mississippi Valley Flood Control Association. I understand on Thursday the Arkansas River Basin Interstate Committee will be here to testify.

We are all very acutely aware, Mr. Chairman, of the budget deficit and the situation we face there.

We also are very acutely aware of the great needs that we have in these particular areas of our respective States in our country to make these investments in our water resources. We think that these investments are perhaps the best investments that we can make in the future for our children and for generations to follow.

The Red River Valley Association, for example, Mr. Chairman, will be represented very ably by our friend, Mr. John Stroud. He will give a detailed list of projects for which we are requesting the committee's attention at this time.

Red River Emergency Bank Protection Project

We would also like to thank the committee, Mr. Chairman. The committee has been extremely, I will use the words, generous and sensitive to the needs that we face. We feel that the No. 1 priority in the southwestern part of our State is the Red River emergency bank protection project. We would like to note that the request of some $4 million is no increase over the last fiscal year, and we are very proud of that fact.

I hear probably more constituent interest in the stabilization issues of the Red River than almost any public work project that we have in our State.

Helena Harbor, AR

We will also witness this year thanks once again to the recognition of the importance of this project to the interest of the delta region the groundbreaking for the Helena Harbor project. This has been long in coming. Many, many years of testimony have taken place. The community has done everything that it conceivably can to make this project a possibility.

We think that the Corps is on schedule according to the reports, and now is the time, we think, for the committee to provide the next step in the funding of the project. I have a more detailed explanation of that situation and will place that in the record.

West Memphis, AR, Flood Protection Project

Last year, Mr. Chairman, I testified to the tremendous need that exists in the city of West Memphis, AR, for measure on flood protection. It was never more apparent than during the flooding that followed the devastating tornado that hit this community in the extreme eastern part of our State and killed six persons in December 1987. I saw that damage firsthand, and I saw a community pull together like I have never seen a community pull together.

We have discussed this issue before with you, and we are very hopeful that we will have the necessary funding for the development of this flood control project.

Ouachita and Black Rivers, AR and LA

Also, Mr. Chairman, the Ouachita and Black Rivers navigation project is one which affects the interest of the State of Arkansas and that of Louisiana. We will not have a working system until the

final phase of the project is complete in northern Louisiana and southern Arkansas. I know that you have supported this project with us, and I can only urge that both States of Arkansas and Louisiana follow through with the last of our local responsibilities, the rights of way necessary for the construction.

RECREATION SITE CLOSURES

Recreation sites are an issue that affect almost everyone in this room, Mr. Chairman, and I might say that tourism is the No. 2 industry today in the State of Arkansas. We have seen that the Corps of Engineers has announced certain funding cutbacks in what would ultimately lead to closed parks or deteriorating parks. This makes no sense to the taxpayer in our region of the country nor to any American taxpayer. We know that the committee will give serious examination to the issue of parks and to recreation.

As I mentioned earlier, the Arkansas River Basin Interstate Committee will be testifying on Thursday represented ably by Mr. Wally Gieringer. He will present testimony relative to the needs of basin, and I strongly support all of those needs.

I have a fact sheet also, Mr. Chairman, for which I would seek unanimous consent to be placed in the record in the West Memphis project. I think that these facts will speak for themselves as to the justification and the need for continuation of this.

I once again express the appreciation and admiration of all the constituents that we represent here this morning. We have a large number of people from the State of Arkansas. They come here to make their case, and I am sure that they will make it well. I support their case, Mr. Chairman.

Thank you.

Senator JOHNSTON. Thank you very much, Senator Pryor. As you know, we consider your Arkansas people to be Louisianians. You promised, as a matter of fact, that they would cross the border for my next campaign.

Senator PRYOR. I think several of them already have. [Laughter.]

Senator JOHNSTON. We sent a few Louisianians to vote for you last time, you remember.

Senator PRYOR. Thank you, Mr. Chairman.

Senator JOHNSTON. Two things you mentioned. First, you used the word ""investments," and these are investments, and the country ought to consider them to be so.

This committee has not received the amount of money for investments in the past few years which I think are prudent for us because this is the infrastructure of the country.

Second, you mentioned a number of good projects, but you talked about the Red River navigation project. We are committed, as you know, to navigation on the Red River to Shreveport and beyond—and that means to Arkansas. These bank stabilization projects will be particularly helpful with respect to those.

We are going to do the very best we can to meet all of those needs you spoke about. As you know, our resources this year are going to be exceedingly short.

Senator PRYOR. Mr. Chairman, I do not envy you. I do not envy the Appropriations Committee, nor do I envy anyone who is an in-

tegral player in that process this year. This is going to be one of those years when it is going to be extremely tight.

I sit on sort of the other side of that process. I am on a committee that is in charge of raising the money, and your committee, of course, spends the money. It is basically that simple. Once again, we do look at these projects as an investment in our infrastructure, and we know that because you have been such a champion of these projects in the past that you are going to continue to give us a sensitive ear and your full understanding and all the cooperation that you can give. We know that, and we appreciate you and your position.

Senator JOHNSTON. Thank you very much, Senator Pryor. I appreciate that very much.

Senator PRYOR. Thank you, sir.

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Senator JOHNSTON. I also want to include in the record statements submitted by Senator Bumpers and Senator Breaux.

[The statements follow:]

STATEMENT OF SENATOR DAVID PRYOR

Mr. Chairman, it is my great honor and privilege to appear before this committee for the eleventh consecutive year as the representative of the Red River Valley Association, the Ouachita River Valley Association, and the Lower Mississippi River Valley Flood Control Association present their public testimony in support of various programs of public works improvements of the federal government. I understand that our friends from the Arkansas River Basin Interstate Committee will appear before you on Thursday.

The Fiscal Year 1990 budget for the Corps of Engineers' civil works program is going to be affected, as it has so often in the recent past, by that old bug-a-boo, the federal deficit. Our friends and supporters from Arkansas, Louisiana, Mississippi, and Oklahoma, who are here today, understand this fact of life very well. It continues to affect their way of life as a result. This is one reason why they choose to come to Washington every year to tell us their story, and ask the Congress to be sympathetic to their needs as we wrestle with the nation's financial crisis.

RED RIVER VALLEY

Mr. Chairman, you, more than anyone else associated with this Committee, know the needs that exist in the Red River Valley. Mr. John Stroud, representing the Arkansas interests in the Red River Valley, will present to you a detailed list of projects for which we are requesting the Committee's attention.

The number one priority for Arkansas in the southwest corner of our state continues to be the Red River Emergency Bank Protection project, for which the group asks $4,000,000 in FY 90. (No increase.) I probably receive more constituent interest in the serious erosion that afflicts the Red River in Arkansas than any other river related problem from that area. I hope the Committee can continue its support of this valuable program, which greatly influences agriculture.

There are a number of studies, all important to Red River, that need the Committee's attention. The Red River Basin Comprehensive Study is most important. Mr. Stroud will testify to the need for funding for continuation of preconstruction planning on the Red River Waterway, Shreveport to Index, Arkansas and the Red River Bank Stabilization project, Index, Arkansas to Denison Dam, Texas.

HELENA HARBOR

This year will witness the ground-breaking for the Helena Harbor project. This project is one of the most important projects to Arkansas and its economic development in many years. This committee saw fit last year to provide the necessary funding for design of this project,and directed the Army Corps of Engineers to be prepared to commence contruction in Fiscal Year 1989. The reports I have indicate that

the Corps is on schedule for that, and now is the time for the Committee to provide the next step in the funding process.

No project in my State enjoys a higher priority. The creation of the Mississippi Delta Commission will ensure that forward looking projects such as this one will be the cornerstone of economic recovery in this region.

WEST MEMPHIS FLOOD CONTROL

Mr. Chairman, last year I testified to the tremendous need that exists in the City of West Memphis for a measure of flood protection. It was never more apparent than during the flooding that followed the devastating tornado that hit the town and killed six persons in December of 1987. I saw the damage firsthand.

As I discussed last year the Water Resources Development Act of 1986 authorized the construction of channel improvements on the Ten and Fifteen Mile Bayous that traverse Crittenden County and affect flood conditions in West Memphis. The Act also provided a way for the Federal government to participate in this project without completely devastating the West Memphis city budget.

I am attaching a copy of the Army Corps of Engineers latest fact sheet on this project for the Committee's use. As you can tell from this there have been numerous meetings and the public liaison has been positive. However, if you read between the lines, you can also tell that there has been no construction outside of that the city has initiated on its own. In short, we are not close on getting a local cost-share arrangement for this $23 million project, which has a high 1.7 benefit-cost ratio.

Mr. Chairman, I hope that this Committee will take stock of this situation in West Memphis, and seek some kind of accommodation with the Corps. What you are witnessing here will happen to a small town in your State someday. The ability to pay will become the overriding factor in that town's quest for stability and growth, and once again, we will separate rich from poor. The people of West Memphis are prepared to cost-share up to the limit of their ability.

OUACHITA RIVER NAVIGATION

I continue to support the completion of the Ouachita-Black River Navigation system. We will not have a working system until the final phase of the project is complete in northern Louisiana and southern Arkansas. I know, Mr. Chairman, that you support the project also, and I can only urge that both States follow through with the last of the local responsibilities, i.e. the rights-of-way necessary for the construction.

ARMY CORPS OF ENGINEERS RECREATION SITES

The Army has created a stir in Arkansas with the announcement of certain budget cuts that will affect recreation at our many lakes. Tourism is the number two industry in Arkansas, and outdoor water related sports are vital to a healthy economy in so many areas. I cannot overemphasize the importance of maintaining these recreation sites. It is hard to imagine that our nation would fund the construction of so many of these public access areas, and watch while they are either closed or allowed to deteriorate. It makes no sense to the taxpayer.

The Corps officials in Arkansas tell me they plan to close no recreation sites, but maintenance will be reduced, severely in some cases. Nevertheless, the public is rightfully concerned. I understand and appreciate the need to reduce government spending, but I want to make sure it is done in a way that truly reflects our national priorities. Even though recreation may sound like it would not ordinarily be a top priority, I can assure you that jobs and economic vitality are priority number one.

I urge this Committee to stay close to the funding for recreation sites issue. It is certainly a closely watched issue in Arkansas.

ARKANSAS RIVER BASIN

On Thursday, Mr. Wally Gieringer, Executive Director of the Pine Bluff-Jefferson County Port Authority, will present testimony relevant to the needs that exist in the Arkansas River Basin. As you undoubtedly know, Mr. Chairman, we have had a problem in recent years with low water during the summer months at the lower end of the Arkansas River navigation system. The Army Corps of Engineers has been studying solutions, and it is important that these studies continue. I support the concepts expressed in Mr. Gieringer's statement, and I hope the Committee will carefully consider his recommendations.

Thank you, Mr. Chairman for this opportunity to appear before this Committee with my fellow Arkansans.

[Memphis District, CELMM-PD-F, 1 April 1989]

FACT SHEET

1. Project. West Memphis, Arkansas and Vicinity
   Program Manager: Durley McLarty, Ex. 3346
   Project Manager: Bethany Patterson, Ex. 3460
2. Authorization/Purpose.
   A. WRDA of 1986
   B. The purpose of this study is urban flood control.
3. Location.
   East Central Arkansas
   Crittenden and St. Francis Counties, Arkansas
   From stream mile 10.3 on Fifteen Mile Bayou to the confluence of Ten Mile Bayou to West Memphis, Arkansas
4. Description.
   Urban areas—West Memphis—1980 population 28,138; 2,245 structures affected by 100-year flood
   Rural basin—45 miles long, 20 miles wide (324 square mile drainage area)
   Primary problem is biennial flooding in the urban area and yearly damage to agricultural production
   Authorized plan of improvement consists of:
   —23.86 miles of channel improvement on Ten and Fifteen Mile Bayous
   —Restrictive easements and limited revegetation program
   —Provide 10-year degree of protection in urban and rural areas
   Estimated construction cost is $23,400,000 (Oct 88 prices).
   B/C ratio is 1.7.
5. Status.
   Project authorized by WRDA of 1986
   ASA(CW) to OMB—22 April 1988
   Funds provided and PED initiated 27 July 1988
   Existing needs and problems are being assessed
   Monthly coordination meetings are being held with local interests
6. Costs.
   Estimated Study Cost: $1,100,000 (Oct 88 Prices)
   Costs thru FY 88: $462,000
   Allocation FY 89: $500,000
   Balance to Complete: $138,000

7. Special Consideration. Congressman Bill Alexander of Arkansas and local officials, including Mayor Keith Ingram, were briefed on the project on 27 February 1987, and on 8 January 1988. Meetings to discuss project implementation were held with local officials on 12 January, 3 February and 2 August 1988. Monthly meetings are scheduled with engineers for the City of West Memphis and drainage district.

The City of West Memphis has developed a pumping station plan to complement the Corps plan which will provide protection for some of the most severely flooded areas in the city. Phase I of the plan includes three pumping stations and has an estimated cost of $5.7 million excluding LERRD costs. Phase II of the plan includes two additional pumping stations which are currently estimated at $2.6 million. A comprehensive plan combining work proposed by both the Corps and West Memphis is needed to provide long term relief to the area.

A meeting with the West Memphis City Engineer was held on 13 February 1989 to discuss credit under Section 215 of the Flood Control Act of 1968 for the pumping station and the possibility of adding the pumping stations to the Corps plan.

8. Local Sponsor.
   City of West Memphis, AR
   Drainage District No. 2 of Crittenden County
   Drainage District No. 6 of Crittenden County
   Crittenden County

STATEMENT OF SENATOR DALE BUMPERS

Mr. Chairman, I appreciate this opportunity to introduce and welcome my friends - members of the various river basin associations and commissions, and representatives of other projects from Arkansas who are here to testify before the Subcommittee on Energy and Water Development on the FY90 appropriations. I am pleased to note that Arkansas members of the Lower Mississippi Valley Flood Control Association, the Arkansas Red River Commission, and the Arkansas River Basin Interstate Committee will be testifying, and I commend these individuals for their selfless dedication in the effort to enhance water resources in Arkansas and the Nation.
Arkansans present today, and who will be testifying include Mayor Keith Ingram of West Memphis, Arkansas, Wallace Gieringer representing the Arkansas River Basin Interstate Committee, Barry McKuin, President of the Arkansas Basin Association, Charles Maynard of the Arkansas Interstate Commission, and John Stroud of the Red River Commission.

These individuals will expound on the projects involved, and I urge the Committee to give serious and favorable consideration to these projects which are vitally important to Arkansas and the region. I also would like to take a moment to share with you some of my special concerns and interests.

As the Chairman is well aware, West Memphis, Arkansas suffered through a devastating killer tornado and two major floods in December 1987 and January 1988, causing millions of dollars in damages. Mayor Ingram, one of the brighest, ablest, hardest working young mayors in my State, has worked tirelessly to lead the rebuilding effort and to find a long-term solution to what has become an annual flooding event. But there remains much work to be done.

The City of West Memphis could be greatly benefited by the West Memphis, Arkansas and Vicinity Project, which is a $23 million, 8 to 10 year project to provide long-term solutions to the flooding problem faced annually by this city. However, the cost share requirement is more than this small city can provide. West Memphis is located in Crittenden County where over 40% of the families live below the poverty line, and where the per capita of $8,430 is 34% below the national average. The $11 million cost share requirement for a city with an annual budget of only $8 million is onerous, and I have worked with the Memphis District Corps of Engineers to develop a plan that is more affordable and provides long-term protection. The Memphis District has been very receptive, and has worked with the City towards this end. I believe a plan will be created that the City can cost-share, and I urge this Subcommittee to support this effort fully - one of my highest legislative priorities.

Mr. Chairman, the creation of harbor facilities, especially slackwater harbors, is tremendously important in the further development of the navigation capabilities in Arkansas and the region. I have strongly supported the proposed facilities at Helena and Yellow Bend, and I am pleased to report that work on these two projects is on schedule. I would encourage the Corps to continue to act expeditiously on these projects, which are so important in our quest to reverse the economic stagnation in the Arkansas and Mississippi counties near these facilities along the Mississippi River. Also, I hope that the Subcommittee will be able this year to act on my funding request for the Pine Bluff harbor.

All of these projects will serve the navigation needs of a region that is the poorest in the country. The Corps supports these projects and local sponsors have worked tirelessly for many years to make these projects a success. I am especially pleased that

the budget request includes funds for both the Helena and Yellow Bend slackwater harbor projects.

The Red River project continues to serve a vital function, and John Stroud, attorney for the Red River Commission will testify today on funding for several portions of this project. I strongly support these requests, and I urge the Committee to act favorably. One of the critical funding needs is $4 million for the Red River Emergency Bank Protection program. Bank cavings continue to be a tremendous threat to agriculture, navigation, highways, bridges, and flood control, and much valuable land has already been irreparably lost. If the necessary work is not continued, the cost of performing this work in the future will skyrocket. This money will allow continuance of necessary bank stabilization work, including work on the Brown Realignment, the last realignment in Arkansas, and the Slay Bend Revetment, an area of the river with the most severe caving problem.

I continue to support the Red River Comprehensive Basin Study, Arkansas, Louisiana, Oklahoma, and Texas, which includes the comprehensive study of the flood control, water supply, port development, recreational, and hydro-electric potential of the entire Red River basin. I join the Arkansas Red River Commission in urging that approval be given at the full Corps capability for FY90 for continuation of the study, including the continuation of the study on the feasibility of navigation from Shreveport, Louisiana to Index, Arkansas, and all points in between.

Another project that I am interested in is the Red River Waterway Project, Shreveport, Louisiana to Index, Arkansas, which is the reason for the creation of the Arkansas Red River Commission. Funding for this comprehensive bank stabilization project for preconstruction planning and construction is required if the threat to valuable farmland is to be ended. Millions of dollars

have already been provided by the State of Arkansas and local governments and the Red River Commission is continuing its efforts to have all necessary non-federal cost share funds in hand for the start of construction. I strongly support the request for $50,000 for the continuation of preconstruction planning.

Under Red River Levees and Bank Stabilization Below Denison Dam, $1,000,000 is again needed to continue the levee reshaping work that was begun last year. This effort is vital to reducing maintenance and other associated costs, and will allow for improvements in the system.

Another project which has meant so much to Arkansas, both in terms of economic development and in preventing flood damage, is the McClellan-Kerr Arkansas River Navigation System. I join with the Arkansas River Basin Interstate Committee and the Arkansas Basin Association in urging the continuation of construction authority. Projects which are left to be resolved, and which deserve further Committee attention, are a proposed structure at the mouth of the White River, known as the proposed Montgomery Point Lock and Dam, to alleviate low-water problems; the construction continuation of the extension of the Arkansas-White River cut-off structure, repairs to Dam 2, the need to purchase more easement lands, and completion of the Arkansas River Basin Study. The Arkansas River Basin Study is urgently needed because serious problems have arisen due to conflicting needs of different beneficiaries of the river's resources.

Soon, I, along with Senator Pryor, will introduce legislation authorizing the Corps to excavate the Arkansas-White River canal to its full depth and to deposit the fill material resulting from this excavation at Morgan Bendway. This excavation is crucial if the Corps is to be able to operate Pool 2 to move sediments

through the System and to greatly reduce annual dredging costs. Operational and maintenance funds for the full-depth excavation of the Arkansas-White Canal will be necessary, and I urge the Subcommittee to provide necessary funds contingent on the passage of the authorizing legislation. I also join the Basin groups in expressing my support for the Administration's budget request for construction, operation and maintenance of the McClellan-Kerr Arkansas River Navigation System.

Mr. Chairman, these are but a few of the concerns that I have involving projects affecting Arkansas and the region, and I will be in further contact with you and other members of the Committee to share other concerns, such as the continuing problem on the water supply for Heber Springs. I believe that the prudent and reasoned development of our water resources is an important national purpose, and I appreciate the opportunity to share my thoughts on some of the projects which help to further this important purpose. I have always appreciated the consideration the Chairman has given me on my requests, and I look forward to working with you and other members of the Committee.

STATEMENT OF SENATOR JOHN BREAUX

MR. CHAIRMAN, THANK YOU AND THE SUBCOMMITTEE FOR THIS OPPORTUNITY TO APPEAR THIS MORNING TO TESTIFY ON BEHALF OF THE STATE OF LOUISIANA, OUR LEVEE DISTRICTS, OUR PORTS, AND OUR WATERWAY GROUPS.

WE ALL ARE AWARE OF THE FISCAL SITUATION FACING THE FEDERAL GOVERNMENT TODAY. RECOGNIZING THAT, I BELIEVE THE SITUATION FACING LOUISIANA TODAY IN TERMS OF OUR WETLANDS, THE ATCHAFALAYA BASIN, FLOOD CONTROL & HURRICANE PROTECTION, THE NEED TO KEEPS OUR PORTS AND WATERWAYS VIABLE FOR NAVIGATION AND COMMERCE MERITS THE CONGRESS PAYING CLOSE ATTENTION TO THE REQUESTS OUR PEOPLE ARE TO MAKE TODAY.

LOUISIANA DRAINS OVER 40 PERCENT OF THE NATION. OUR WETLANDS COMPRISE 40 PERCENT OF THE NATION'S TOTAL WETLAND

AREA. WE'RE EXPERIENCING ABOUT 80 PERCENT OF THE NATION'S WETLAND LOSS. I'VE INTRODUCED LEGISLATION, IN WHICH SENATOR JOHNSTON HAS JOINED ME, TO ESTABLISH A WORKABLE PROGRAM TO RESTORE COASTAL LOUISIANA WETLANDS AND ELIMINATE FUTURE COASTAL WETLAND LOSS. I ASK THE SUBCOMMITTEE TO ASSIST WITH RESOURCES SO THAT OUR WETLANDS CAN BE PROTECTED AND RESTORED.

Lower Mississippi Valley Flood Control Projects

Senator Johnston. Next, we have a group from the Lower Mississippi Flood Control Association.

Mr. T.M. Simmons is chairman of the executive committee of the Lower Mississippi Valley Flood Control Association. He is also president of the Yazoo-Mississippi Delta Levee Board of Clarksdale, MI.

Keith Ingram is mayor of the city of West Memphis, AR, the project of which Senator Pryor was just speaking.

J. Richard Swain is executive director of the Obion-Forked Deer Basin Authority of Jackson, TN.

Donald McCrory is director of Memphis and Shelby County Port Commission of Memphis.

J. Drue Lundy is president of the Mississippi Levy Board of Greenville, MI.

H. A. Boughton is president, Tensas Basin Levee District of Rayville, LA.

Curtis Patterson is chief engineer of the Louisiana Department of Transportation and Development, Office of Public Works in Baton Rouge.

Gentlemen, welcome.

Mr. Simmons, you are first on the list.

STATEMENT OF T.M. SIMMONS, CHAIRMAN, EXECUTIVE COMMITTEE, LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION, AND PRESIDENT, YAZOO-MISSISSIPPI DELTA LEVEE BOARD

Mr. Simmons. Thank you, Mr. Chairman.

Mr. Chairman and distinguished members of the committee, my name is Mark Simmons, and as Senator Pryor said earlier, this is his 11th year to appear before this committee. This is my 30th year to appear before this committee.

I am the President of the Yazoo-Mississippi Delta Levee District of Clarksdale, Mi. I am also the chairman of the executive committee of the Lower Mississippi Valley Flood Control Association, and I appear here as spokesman for that association in support of the Mississippi River and tributaries project which was established by the Flood Control Act of 1928.

Mr. Chairman, I assure you we will be as brief as possible. I have submitted a more detailed statement that I request be made a part of the record.

Senator Johnston. Without objection.

Mr. SIMMONS. Most, if not all, of you are familiar with our association, and I describe the organization and objectives in my written statement so I will not repeat them.

This association has appeared before the Subcommittee on Appropriations for Water Resources for almost 60 years, and I believe the 175 to 200 people we have with us today is evidence that neither our enthusiasm or our problems have decreased over those years.

During most of those past years our speakers have discussed with you our funding problems with certain aspects of the flood control and navigation work that makes up the complex and vital Mississippi River and tributaries project.

Also during the large majority of those years this subcommittee and the entire Congress has appropriated the funds that we have requested.

FISCAL YEAR 1990 FUNDING RECOMMENDATION

As was always done in the past, the executive committee of the Lower Mississippi Valley Flood Control Association has closely examined the fiscal year 1990 budget as submitted for the Mississippi River and tributaries project. Our examination of the Mississippi River and tributaries budget which totals $337 million reveals it to be more than adequate in light of the fact that we are still faced with the same problems we discussed with you last year. Those problems continue to be the inability to pay for the new and additional cost sharing requirements plus the reluctance or refusal on the part of the executive branch to construct the work that the Congress has authorized and funded.

We continue to hold a firm belief that all decisions concerning water resources development should be made in the open forum of the Congress. Consequently, we will use a format similar to the one of last year and present witnesses who will clearly show this subcommittee what we are facing in the lower Mississippi Valley.

COST-SHARING REQUIREMENTS

We are fully aware that this subcommittee is principally concerned with the appropriation of funds, but, Mr. Chairman, this is the only opportunity we have to make the Congress, and especially you ladies and gentlemen who are experts in water resources aware of our problems.

It is apparent to us now that these problems can only be rectified by the Congress of the United States, and that body alone can save the vitally needed and too-long delayed completion of the Mississippi River and tributaries project.

We are well aware that the Congress realizes the economic plight of the lower Mississippi Valley. That fact is emphasized by the establishment and funding of the Lower Mississippi Delta Development Commission. The Congress and especially this subcommittee does not need to be reminded that over 40 percent of our Nation drains through the lower Mississippi Valley.

These two facts alone make our problems with cost sharing for flood control work unique and different, requiring special help and assistance from the Congress.

If it is not feasible or possible at this time to exempt flood control work in the lower Mississippi Valley from restrictive cost sharing, then let us make a proposal to this subcommittee. Give the local sponsoring organization their choice of having Federal funds equal to their percent of the cost share appropriated to them with their assurance that they will complete a satisfactory project with those funds or the local sponsoring organization would contribute, if possible, non-Federal cost share money as is presently required.

We are firmly convinced that in numerous instances the local interest could complete a satisfactory project if only they had the funds now required for their share of the cost sharing.

This proposal would not only give the local interest a choice, but we believe it would also mean more of the much-needed flood control work would be completed, and also the Federal Government could save Federal funds.

Mr. Chairman, I wish to express for this entire association our sincere appreciation for the many courtesies and the time this subcommittee has given us today and all the past years we have appeared before you.

With your permission, I would like to present our next witness, Mr. Keith Ingram, the duly elected mayor of West Memphis, AR.

Senator JOHNSTON. Thank you very much, Mr. Simmons.

Before we hear from the Mayor, I would like to note the presence of Senator Thad Cochran, a very valuable member of this subcommittee who has done so much, as so many of you know, not only for flood control and navigation in the Mississippi Valley, but all around the country. We are very lucky to have Senator Cochran as a member of this committee.

Just a note, Mr. Simmons. On the West Memphis project, as you know, this committee has been working with the Corps to try to come up with a project that the city can afford under the cost-sharing arrangements without doing violence to the law, which we cannot do, and we will continue to work with you and others on that.

[The statement follows:]

STATEMENT OF T.M. SIMMONS

Mr. Chairman and distinguished members of the Committee, my name is Mark Simmons. I am the President of the Yazoo-Mississippi Delta Levee District of Clarksdale, Mississippi. I am also the Chairman of the Executive Committee of the Lower Mississippi Valley Flood Control Association and I appear here as spokesman for that Association in support of the Mississippi River and Tributaries Project which was established by the Flood Control Act of 1928. Mr. Chairman, I assure you we will be as brief as possible.

As most of you know, the Lower Mississippi Valley Flood Control Association is an agency composed of Levee Boards, Drainage Districts, Port Commissions, Municipalities and other local units of government of the seven states bordering on the lower Mississippi River, having responsibility at the local level for flood protection, drainage, navigation and harbor development, in the States of Illinois, Missouri, Kentucky, Tennessee, Arkansas, Mississippi and Louisiana, extending from Cape Girardeau, Missouri to the Gulf of Mexico. Our Association has, for well over fifty years, worked closely with the Congress, the Corps of Engineers and other governmental agencies to promote adequate flood protection along the Lower Mississippi River, to provide adequate run-off and drainage of flood and surface waters, to develop harbor facilities, and to encourage greater use of the river as an artery of transportation. We provide the means for all the people of our great Valley to speak and act jointly on all these problems and concerns.

This Association has appeared before the Subcommitees on Appropriations for Water Resources for almost 60 years and I believe the 175 to 200 people we have with us today is evidence that neither our enthusiasm nor our problems have decreased over those years.

During most of those past years our speakers discussed with you our funding problems with certain aspects of the flood control and navigation work that makes up the complex and vital Mississippi River and Tributaries Project. Also during the large majority of those years this Subcommitee and the entire Congress has appropriated the funds we have requested.

As we've always done in the past the Executive Committee of the Lower Mississippi Valley Flood Control Association has closely examined the Fiscal Year 1990 Budget as submitted for the Mississippi River and Tributaries Project.

We read that the Chief of Engineers has been quoted as saying that as far as he's concerned this budget is certainly adequate for the Corps to perform its functions and missions.

Our examination of the Mississippi River and Tributaries Budget that totals $337,000,000 reveals it to be more than adequate in light of the fact that we are still faced with the same problems we discussed last year. Those problems continue to be the inability to pay for the new and additional cost-sharing requirements plus the reluctance or refusal on the part of the Executive Department to construct the work that the Congress has authorized and funded.

We continue to hold a firm belief that all decisions concerning water resources development should be made in the open forum of the Congress consequently we will use a similar format to the one of last year and present witnesses that will clearly show this Subcommittee what we are facing in the Lower Mississippi Valley.

We are fully aware that this Subcommittee is principally concerned with the appropriation of funds but Mr. Chairman, this is the only opportunity we have to make the Congress and especially you Ladies and Gentlemen who are the experts in water resources

aware of our problems. It is apparent to us now that these problems can only be rectified by the Congress of the United States and that body alone can save the vitally needed and too-long delayed completion of the Mississippi River and Tributaries Project.

We are well aware that the Congress realizes the economic plight of the Lower Mississippi Valley. That fact is emphasized by the establishment and funding of the Lower Mississippi Delta Development Commission. The Congress and especially this Subcommittee does not need to be reminded that over 40% of our great Nation drains thru the Lower Mississippi Valley. These two facts alone make our problems with "cost-sharing" for flood control work unique and different and requiring special help and assistance from the Congress.

If it is not feasible or possible at this time to exempt flood control work in the Lower Mississippi Valley from restrictive "cost-sharing" then let us make a proposal to this Subcommittee. Give the local sponsoring organizations their choice of having federal funds equal to their percent of the cost share appropriated to them with their assurance they would complete a satisfactory project with those funds, or the local sponsoring organization would contribute if possible non-federal cost-share money as is presently required.

We are firmly convinced that in numerous instances the local interests could complete a satisfactory project if only they had the funds now required for their share of the cost-sharing. This proposal would not only give the local interests a choice but we believe it would also mean more of the much needed flood control work would be completed and also the Federal government could save Federal funds.

Mr. Chairman, I wish to express for this entire Association our sincere appreciation for the many courtesies and the time this Subcommittee has given us today and all the past years.

With your permission I would like to present our next witness, Mr. Keith Ingram, the duly elected Mayor of West Memphis, Arkansas.

WEST MEMPHIS, AR LOCAL PROTECTION PROJECT

STATEMENT OF KEITH INGRAM, MAYOR, WEST MEMPHIS, AR

Senator JOHNSTON. Mayor, glad to have you.

Mr. INGRAM. Thank you very much, Mr. Chairman and distinguished members of the committee. My name is Keith Ingram. I am mayor of the city of West Memphis, AR, a community of approximately 28,000 people located on the Mississippi River in Crittendon County. I appreciate the opportunity to appear before this committee again this year in order to bring you up to date concerning the very serious and life-threatening problems the citizens of West Memphis continue to face.

When I appeared before you last year, I told you about the numerous and significantly damaging flood problems we have suffered since 1975, the year that Congress directed the Corps of Engineers to begin studying the long-standing flood problems in West Memphis. I told you about the disastrous flood that we suffered in 1987 which forced over 1,200 who were mostly low-income individuals from their homes and caused the death of one of our citizens.

I also explained to this committee last year that the levees which protect our city against floodwaters from as far away as Montana and New York block the natural drainage of our own city's floodwaters and makes the cost of local flood protection very expensive.

ABILITY TO PAY ISSUE

I also stated last year that the Corps of Engineers was and is operating under the unrealistic assumption that even the poorest communities and States have the ability to pay at least 25 percent of the cost of an economically justified flood control project.

Mr. Chairman, let me again assure you that we cannot pay for 25, 5 or any percentage of the cost of the project authorized for flood control for West Memphis, AR. We simply do not have the financial ability to meet such requirements.

Now, if you will, let me bring you up to date concerning the problems we face. First, I want to share with you what the executive branch has done. In response to my April 14, 1988, inquiry to the Assistant Secretary of the Army's office regarding the applicability of section 103(m) of the Water Resource Development Act of 1986, which is the part concerning the ability to pay, I received a letter from the Assistant Secretary's office dated June 9, 1988, almost 2 months later, that stated, and I quote:

> The West Memphis project would be eligible for a reduction in the non-Federal share from 50 percent of the project cost to 47.5 percent of the projected cost.

This correspondence, Mr. Chairman, came just 2 months after the Assistant Secretary assured us that he would listen to our plea, knowing full well that we did not have the ability to pay any percentage of the authorized flood control project.

I would also like to add that the 47.5-percent cost share is the last official information I have received concerning what percentage we must pay.

LOCAL EFFORT TO PROVIDE FLOOD PROTECION

Mr. Chairman, I would like to tell this committee what we have done since I last appeared here. Last year, we spent over $130,000 to construct a levee/flapgate structure to protect a small portion of our town. This structure was meant to provide interim flood protection, and it has already paid for itself by preventing flooding in that small area of town on three separate occasions.

We must, however, use portable pumps furnished by the Corps to operate the structure which is extremely labor intensive and cannot be viewed as any sort of permanent solution.

For this reason and because of our geography, this approach cannot be used anywhere else in the city. We have some areas in our community where people's homes have been flooded three times in the past year.

The city of West Memphis received a $37,000 grant from the Federal Emergency Management Agency and the Office of Emergency Services of the State of Arkansas. In 90 days we received a study that outlined a $7 million project which included five pumping stations to provide interim protection for the city of West Memphis. These pumping stations could be operational in just 16 months.

Not only have our citizens suffered but so have our city streets. Streets are the largest investment a community has. We have had to divert moneys spent on flood-related problems from our city street budget.

Our citizens feel that we are fighting a losing battle because we cannot solve the flooding problems on our own, and each time that our streets flood they know that more streets are being undermined and damaged. In fact, we fixed flood damaged streets this year knowing that we would be back in a few years to fix them again. It is an endless circle.

The saddest part of this is that this is a problem that can be solved. The Corps of Engineers will soon have spent over $2 million studying our problem in West Memphis. In fact, since the Corps began work on this project in 1975, the only actual flood protection that has been constructed in the city of West Memphis is the $130,000 expended by the city to build the levee flapgate structure.

We estimate for the same amount of money that the Corps has already spent, we could have already built one of the five pumping stations we desperately need that would have protected a large portion of the city's flood-prone area.

The Memphis Corps of Engineers district office is working very hard to help us, but due to procedures and rules it is impossible for them to respond to our problems as fast as we need help. By their latest estimate, it will be the end of 1991 before work can start on the project they are currently studying; that is, if everything goes without a hitch and we are somehow able to find $11.7 million.

We cannot afford to waste any more time. As communities north of us develop, they will throw off even more water that will flow into the West Memphis basin. Since the natural drainage path to the Mississippi River is blocked, all of it must go through West Memphis on its long detour to the river.

Of the Corps' proposed $24 million, 24-mile drainage project, only 2 miles will actually be within the city limits of West Memphis, AR. Mr. Chairman, we simply do not have the resources to move everyone else's water out of our area, and this is why we believe Federal assistance is appropriate in this case. It is our only alternative.

In summary, West Memphis is still in the same position we were in last year when I appeared before you. The ability-to-pay clause in the Water Resource Development Act of 1986 is not functioning in the manner that you had envisioned. Congress realizes that we live in one of the poorest sections of the country. Congress began to address these problems when the Delta Development Commission was authorized.

In the meantime, West Memphis remains burdened with everyone else's water. Our problem is not going away. It is getting worse. Our citizens still suffer. Our economy stagnates. All we ask is that Congress give us the choice between cost sharing or an equivalent appropriation. In our case, a direct appropriation of $7 million will solve the in-city flood problem with five pumping stations that can be built by the city in 16 months.

Meanwhile, under a separately funded Corps project and on their own time schedule, an estimated 10 more years, work could pro-

ceed on the 24 miles of channel improvement that they feel is necessary to permanently handle the water throughout the area.

Mr. Chairman, we firmly believe and the evidence supports our belief that the Congress in passing the Water Resource Development Act of 1986 intended that needed flood control be provided if the non-Federal sponsors did not have the ability to pay.

Let me quote a paragraph from the Senate report language that was quoted to Senator Bumpers by Senator Moynihan on March 14, 1986, and I quote:

> Beneficial projects should not, however, be rejected simply because non-Federal interest lack the resources to finance the share of the developing cost.

I think this plainly reflects the intent of Congress in this matter and clearly does not reflect the criteria that the executive branch is using now and will continue to use unless Congress exercises some control over the procedures and the rules and regulations concerning the ability to pay.

We are here today to request that the criteria for the ability to pay reflects Congressman Roe's statement, and I quote:

> No non-Federal cost sharing in the areas where need exists, but ability to pay does not.

We do not want projects constructed if there is not a need; however, the Corps estimates that $1.3 million in damage will continue to occur each year in my community unless something is done. We in West Memphis feel that the people in the poorest section of this Nation should not be deprived of much-needed flood protection simply because the non-Federal dollars are not available.

I do appreciate once again the opportunity to come before you to present our case. Mr. Chairman, with your permission I would like to call on our next witness, Mr. J. Richard Swain, executive director of the Obion-Forked Deer Basin Authority.

Thank you very much, sir.

Senator JOHNSTON. Thank you very much, Mayor.

Before we call on Mr. Swain, I would like to note the presence of Senator Bumpers, who has made this committee aware of your project over and over again. I can assure you that as a member of this committee, he is not going to let us forget West Memphis. If it is possible to do anything for West Memphis, we will do it. If we are not otherwise inclined to do it, Senator Bumpers will ensure that we are inclined to do it.

Senator Bumpers, would you like to say a word?

STATEMENT OF SENATOR BUMPERS

Senator BUMPERS. Mr. Chairman, first let me extend my apologies to the committee and also to all of my distinguished friends who are present here this morning. This day is always very important to all of us, particulary in the Mississippi River basin and the Arkansas River basin.

I apologize for being late. I will have a statement and I ask unanimous consent that it be inserted in the record.

Senator JOHNSTON. Without objection.

Senator BUMPERS. I would further state that Senator Johnston, Senator Cochran, and I are three Senators who recognize the meri-

toriousness of all these projects in Mississippi, Louisiana, Arkansas, and all those boondoggles in those other 47 States. As this bill is marked up, I promise you we will remember that.

I do not have to worry about the Red River because I have the chairman of this subcommittee to take care of that for me. That is moving along very well, as are some of the ports that we have gotten in Arkansas. I will not elaborate on my concerns for all these, but I do want to say, Mr. Chairman, that I personally have witnessed unbelievable suffering of the people in West Memphis, first with one of the most devastating tornadoes we have had in our State.

Keith, you probably were not there but we had tornado warnings all over the State last night. I do not know whether we had any tornadoes or not.

The tornado was followed by a flood, it really looked like West Memphis was substituting for Job when it came to the plagues.

As Mayor Ingram has so eloquently stated, West Memphis is not a rich city. They are very limited on what they can do under the cost-sharing effort, and there is no project that should have anybody's attention more than that because we have to alleviate human suffering there very quickly.

In any event, Mr. Chairman, I apologize again for being late, and I want to welcome all of these people who are interested in all of these projects. Given the budget constraints which all of you recognize and appreciate, I promise you this subcommittee under the very able leadership of Senator Johnston will do its very best to accommodate all of your concerns on what we will have to determine on a priority basis.

Thank you, Mr. Chairman.

INTRODUCTION OF SUPPORTING WITNESSES

Senator JOHNSTON. Thank you very much, Senator Bumpers.

I would like to place in the record at this time the list of people who are here today on behalf of the Lower Mississippi Valley Flood Control Association. It is an extensive list and, I might say, a very outstanding list because I especially know this group from Louisiana and I know most of these from other states as well. I would like for the record to reflect all of those names.

[The information follows:]

INDIVIDUALS WHO ATTENDED HEARINGS BEFORE
THE ENERGY AND WATER DEVELOPMENT SUBCOMMITTEE ON APPROPRIATIONS
APRIL 4, 1989

MISSOURI

Consolidated Drainage District
1312 Warde
Charleston, Missouri 63834
Mr. Glenn Ault
Mr. John Joe Bryant
John Moreton

Drainage District #6 & #8
of Pemiscot County
Pemiscot County Courthouse
Caruthersville, Missouri 63830
Judge Bob Long

Levee District #3 of Mississippi
County
P.O. Box 176
Wyatt, Missouri 63832
Mr. David Brewer
Mr. J. Byrd
Mr. Lester Goodin
Mr. Ed C. Marshall
Mr. Elott Raffety

Little River Drainage District
P.O. Box 159
Cape Girardeau, Missouri 63701
Mr. Harry Bock
Mr. Riley Bock
Mr. Larry Dowdy
Mr. Vic Downing
Mr. E.B. Gee, Jr.
Mr. W.P. Hunter
Mr. A.C. Riley

St. John's Levee & Drainage Dist.
P.O. Box 316
Charleston, Missouri 63834
Mr. George Story

KENTUCKY

Fulton County Levee Board
P.O. Box 266
Hickman, Kentucky 42050
Mr. Bob Sanger

TENNESSEE

Continental Engineering Company
1940 Brooks Rd., E., Suite Two
Memphis, Tennessee 38116
(Associate Member)
Mr. Richard Hall

Obion-Forked Deer Basin Authority
225 Madison, Suite 305-A
Jackson,Tennessee 38301
Mr. Kerry Killebrew
Mr. J. Richard Swaim
Mr. A. Franklin Smith
Mrs. Susan L.Walker

Memphis & Shelby County Port Com.
P.O. Box 13142
Memphis, Tennessee 38113
Mr. Donald McCrory

West Tennessee Tributaries
P.O.Box 235
Friendship, Tennessee 38034
Mr. M.V. Williams

Folk Construction Company
P.O. Box 17888
Memphis, Tennessee 38187-0888
(Associate Member)
Mr. Humphrey Folk

ARKANSAS

City of Helena
City Clerk
Helena, Arkansas 72342
Mayor Sammy Brocato

Cotton Belt Levee District #1
P.O. Box 610
Helena, Arkansas 72342
Mr. John King
Mr. Charles Roscopf
Mr. Pete Topp

Drainage District #7 of
Poinsett County
Drawer 368
Marked Tree, Arkansas 72365
Mr. Wayne Hinds

Helena Improvement District
P.O.Box 236
Helena, Arkansas 72342
Mr. Jim Frazier

Laconia Levee & Drainage Dist.
417 Rightor Street
Helena, Arkansas 72342
Mr. Bill Carter
Mr.Ray Galloway
Mr.Al Haraway
Mr. Gene Raff

L'Anguille Improvement Dist.
Route 1, Box 36
Cherry Valley, Arkansas 72324
Mr. Dan Felton, Jr.

St. Francis Levee Dist. of AR
P.O. Box 308
West Memphis, Arkansas 72301
Mr. Sam Ashworth
Mr. James O. Campbell
Mr. Sanders Carter
Mr. William W. Clarke
Mr. C.L. Denton, III

Mr. Burrell Fair
Mr. Bill Felty
Mr. Everett Hood
Mr. Tom Hawley
Mr. Lon Mann
Mr. W. Gordon Morris, Jr.
Mr. Jim Shaver
Mr. W.M. Smith, Jr.
Mr. Ruben Stubblefield
Mr. Steve Wilson
Mr. John White

West Memphis Port Authority
205 S. Redding
West Memphis, Arkansas 72301
Mayor Keith Ingram

White River Drainage Dist. of
Phillips and Desha Counties
407 Helena National Bank Bldg.
Helena, Arkansas 72342
Mr. M. Lambert
Mr. David Solomon

MISSISSIPPI

Lead Bayou Drainage District
P.O.Box 837
Cleveland, Mississippi 38732
Mr. Rogers Hall

Mississippi Levee Board
P.O. Box 637
Greenville, Mississippi 38701
Mr. Murry Alexander
Mr. Newman Bolls
Mr. Rives Carter
Mr. John Darnell
Mr. J. Drue Lundy
Mr. F.H. Nance
Mr. Charles Tindall
Mr. Jim Wanamaker

Rosedale-Bolivar County Port Com.
P.O. Box 460
Rosedale, Mississippi 38769
Mr. Ancil Cox
Mr. Charles Deasn
Mr. George Green
Mrs. Lucy Janoush
Mr. A.R. Mann, Jr.
Mr. Allen Pepper
Mr. Brother Wilson
Mr. David Work
Mr. Jimmy Yeager

Warren County Port Commission
P.O. Box 709
Vicksburg, Mississippi 39180
Rev. Kemp Burley
Mr. Jimmy Heidel
Mr. Bill Lauderdale
Mr. Jim Stirgus
Mr. Jack Sturgis
Mr. Bill Stribling
Mr. Dwight Woodward

Yazoo-Mississippi Delta Levee Board
P.O. Box 610
Clarksdale, Mississippi 38614
Mr. Robert Coker
Mr. Dan Frumpton
Mr. Alex B. Gates
Mr. J.W. McClintock
Mr. D.C. Parker
Mr. Ben Pentecost
Mr. John Whitten
Mr. Robert Sayle
Mr. Mark Simmons
Mr. Henry Waterer
Mrs. Linda Reynolds
Mr. Joe F. Mooney, Jr.

LOUISIANA

Atchafalaya Basin Levee District
P.O. Box 170
Port Allen, Louisiana 70767
Mr. Ed Authement
Mr. David Barrow
Mr. Huey Brown
Mr. J.G. Duplantis
Mr. L.J. Gre-zaffi
Mr. Wallace Hargrave
Mr. Wilbert Huey
Mr. Oneil Malbrough
Mr. Fred H. Smith
Mr. Bobby Wilkinson

Bossier Levee District
P.O. Box 189
Benton, Louisiana 71006
Mr. Roy Pilkinton
Mr. Ralph Roberson
Mr. Mann Wallace

Lafourche Basin Levee District
P.O. Box 190
Donaldsonville, Louisiana 70346
Mr. Leonard Alcorn
Mr. Stanley Folse
Mr. Carol Hymel Terry Ordoyne
Mr. Mike McKinney Judy Jarreau
Mr. Randy Trosclair

Louisiana Office of Public
Works
P.O. Box 94245
Baton Rouge, Louisiana 70804-9245
Mr. Ed Breckwoldt
Mr. David Grouchy
Mr. Curtis Patterson
Ms. Janet Phillpot

Pontchartrain Levee Board
P.O. Box 426
Lutcher, Louisiana 70071
Mr. Gerald Dyson
Mr. Larry Moch

South Terrebone Tidewater Dist.
P.O. Box 390
Chauvin, Louisiana 70344-0390
Mr. Carl Chauvin
Mr. Jim Erny
Mr. Philip Fanguy
Mr. woody Gagiliano
Mr. Bobby Marmande
Mr. Clifford Smith

Teche Vermilion Fresh Water District
315 South College, Suite 170
Lafayette, Louisiana 70503
Mr. Ray Brignac
Mr. Hurlin Dupre
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Mr. Ron Besson
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Mrs. Barbara Martin
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Mr. Roger Stack

GREAT RIVER ROAD BRIDGE, TN

STATEMENT OF J. RICHARD SWAIN, OBION-FORKED DEER BASIN AUTHORITY, JACKSON, TN

Senator JOHNSTON. Mr. Swain.

Mr. SWAIN. Thank you, Mr. Chairman. I am Richard Swain, the director of the Obion-Forked Deer Basin Authority in Jackson, TN. The drought of 1988 resulted in record low readings on the Mississippi River for record lengths of time, as you gentlemen are well aware.

This record low water not only was hazardous to navigation, but has been the chief factor in the failure of river banks in the lower Obion and Forked Deer Rivers and the loss of the Great River Road Bridge across the Obion River.

The downcutting of the channels caused these failures below Interstate I-55 and below Dyersburg in Dyer and Lauderdale Counties, TN.

To correct these failures and help prevent further damage, we are requesting the appropriations bill be amended authorizing the Secretary of the Army to make repairs and make whole the existing Great River Road Bridge and the stream bank failures along these sections of the rivers.

Additional funding for the West Tennessee tributaries portion of the Mississippi River and tributaries project will be needed to perform this work. We are convinced that the funds are available in the fiscal year 1990 budget and will require only the redistribution of total funds. We are not asking for additional funds, just an authorization for redistribution of the funds that are now in the appropriations bill.

Mr. Chairman, I appreciate the opportunity to make this presentation before you and would like to introduce the next speaker, Mr. Don McCrory, director of the Memphis and Shelby County Port Authority in Memphis, TN.

MEMPHIS HARBOR, ENSLEY BERM PROJECT, TENNESSEE

STATEMENT OF DONALD McCRORY, DIRECTOR, MEMPHIS AND SHELBY COUNTY PORT COMMISSION, MEMPHIS, TN

Mr. MCCRORY. Mr. Chairman and distinguished members of the committee, my name is Don McCrory, and I am the director of the Memphis and Shelby County Port Commission. I am also a member of the Lower Mississippi Valley Flood Control Association and appear here in support of the Mississippi River and tributaries project in requesting fiscal year 1990 appropriations.

My appearance is also to ask that appropriations include the Ensley Berm project. I want to take this time to point out a unique problem with a portion of the Memphis Harbor Project which was executed under the authority of the 80th Congress 42 years ago.

The Memphis Harbor Project plan of improvement as contained in that Senate Document No. 51 of the 80th Congress called for an industrial fill and associated works to be constructed on Presidents Island in Memphis. It further authorized a levee and pumping station to be constructed to reclaim over 5,000 acres of frequently flooded lands for development.

These flood control facilities were constructed from 1958 to 1968 at a Federal cost of $18,737,000. The pump and levee system was designed to provide a high degree of flood protection consistent with the Mississippi River mainline levee system.

During the design and construction, however, of the Ensley levee, an extensive strata of sand was found near the soil surface. The need for a seepage investigation was recognized prior to the completion of the Memphis Harbor project and listed for study in April 1965.

In 1973 and 1975 floods of the Mississippi River, extensive seepage developed landside of the levee. Backflooding of the protected area was required, thus proving that the area was not protected.

The Memphis District was instructed by the president of the Mississippi River Commission in October 1978 to prepare plans and specifications for corrective action. Those plans and specs were approved in November 1979 and rights of way for construction obtained from local authorities in May 1980. Since that time, funding has become the issue.

Since that project was approved by the Mississippi River Commission in 1946 and adopted by the 80th Congress, that action made it the law of the land. Its requirements for local assurances have been met, which then makes it a two-party agreement as well. It is the Port Commission's contention that that law and that agreement were meant to require compliance by both parties in keeping with the documentation as it has stood since the day it was approved. We believe the correction of the design deficiency and construction should be completed by the Federal Government.

The project was assigned a 40-year useful life. The city of Memphis and Shelby County have for over two decades spent extensive funds operating and maintaining a sizable pumping station as well as maintaining the levee and various other local works to which they agreed. Forty years is a long time to perform those tasks for a project that has no practical use.

For over 50 years the Corps of Engineers has constructed levees for flood protection in the lower Mississippi Valley under the authorization of the Mississippi River and tributaries project. In fact, there are in place in the valley over 3,300 miles of levees.

It has long been the policy and the practice to construct a levee and then observe that reach of levee during high water periods to ascertain if there is seepage under the levee that carries an amount of material that would if not corrected endanger the integrity of the levee and possibly cause a failure.

Following these observations and determinations, the Corps would construct a seepage berm in order to prevent such failure. In fact, the Corps has constructed over 520 miles of such berms, but their observations tell them that about 220 miles of berms are still needed from Cairo, IL to Baton Rouge, LA.

They built these required berms until September 10, 1987, when the Office of the Assistant Secretary of the Army informed Senator Sasser that they had decided not to approve funds for an admittedly required berm at Ensley, TN. That is included in the total 220 miles.

This decision is totally disturbing to the Lower Mississippi Valley Flood Control Association and the port commission because we cannot believe and imagine abandoning the Federal investment in the levee at Ensley, and it is absolutely frightening when you think of the far-reaching implications of such a decision.

Are the millions of people in the valley expected to live behind 220 miles of deficient levees when a levee failure on less than 1 mile will endanger lives and property from Cairo to the Gulf of Mexico, to say nothing of the adverse economic impact on the entire country?

The lack of a required levee berm or a portion of levee that is deficient in any fashion is an excellent example of the old cliche that has to do with the weakest link of the chain.

Mr. Chairman, I ask you today to include in the fiscal year 1990 appropriations for flood control funds for the construction of Ensley Berm and further instruct the Corps of Engineers to build that berm.

I appreciate this opportunity to address this committee and the courtesy you have shown me.

Mr. Chairman, with your permission let me introduce our next speaker, Mr. J. Drue Lundy, president of the Mississippi Levee Board with headquarters in Greenville, MI.

Senator JOHNSTON. Thank you very much.

YAZOO BASIN, BACKWATER PUMPING PLANT

STATEMENT OF J. DRUE LUNDY, PRESIDENT, MISSISSIPPI LEVEE BOARD, GREENVILLE, MI

Mr. LUNDY. Mr. Chairman, I am J. Drue Lundy, president of the board of Mississippi Levee Commissioners of Greenville, MI. It is my privilege to present this statement for the board and those who live in the levee district comprising all of Boliver, Issaquena, Sharkey, and Washington Counties and parts of Humphreys and Warren Counties in the lower Yazoo basin in Mississippi.

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A statement by the Lower Mississippi Valley Flood Control Association supports the budget figure of $337 million in fiscal year 1990 for surveys, advanced engineering, and construction for the Mississippi River and tributaries project. This budget amount is only $2,703,000 more than in fiscal year 1989. While the fiscal year 1990 budget does not contain any funds for the Yazoo backwater pumps, there remains unspent $4 million appropriated in fiscal year 1989.

Why has this $4 million not been spent when it could so tremendously benefit one of the very poorest areas and one of the most, if not the most, economically deprived States in our Nation? The reason is the U.S. Army Corps of Engineers chose to defy the instructions of the committee which were included in last year's report. This was done by a maneuver contrived to make an arbitrary date change from May 15 to April 30 for the specific purpose of making this a cost-shared project and thus torpedoing the contract for the pumps.

This contract was awarded in March 1986 and, to us, this is tantamount to construction on the project. This action, if allowed to stand, spells doom in bold black letters for those who live, raise families, and work in the Yazoo basin and who in many cases are the working poor and are mostly black.

COST-SHARING ISSUE

We cannot say what we feel any clearer than to quote Congressman Carl C. Perkins of Kentucky. When speaking of cost sharing on H.R. 6, he said:

> The administration policy reflected in the conference report makes this a rich man's bill. The provision on cost sharing for flood control means very simply that working people and poor people will no longer be protected from flooding. Rich people do not live as a general rule in a flood-prone area because they can afford to live on high ground.
>
> It is the working people and the poor who are forced by cost to live in flood-prone areas. Poor communities and poor states will never be able to buy the cost sharing required under this bill. The policy reflected in this conference report condemns them to live in fear of floods.
>
> This administration policy violates the human rights of the poor and the working people not only in my area but throughout the Nation.

To further give an idea of the depth of the economic abyss in our area, let me quote figures on unemployment as of February 1, 1989, from the Mississippi Employment Security Commission on rates of unemployment in the Yazoo basin as compared to our national rate which is 5.6 percent.

Mississippi's unemployment is 8.7 percent, more than half again the national rate. In the 10 all-delta counties of the Yazoo basin, the rate is 19.58 percent. That is 3.5 times the national average. In the two counties of Issaquena and Sharkey at the bottom of the Yazoo basin, unemployment is 29.3 percent. This is 5.25 times that of the Nation. We need industries, but industries do not locate readily in areas where threats of flooding exist.

A number of residents in the lower Yazoo basin have to leave their homes because water gets into them and must live in temporary locations until the water goes down, sometimes from February or March until May or June, 2½ to 3 months. There are others whose homes are not flooded but are cut off by high water and

must commute and take their children to school buses by boat. Of course, this means no mail service. It also means problems in case of fire or illness where lack of access to a doctor could be fatal.

Bear in mind, too, the total inability of these taxpaying citizens with meager financial resources to pay any part of the cost and operation of the Yazoo basin pumps.

It is significant also that much of the water that devastates the Yazoo basin is someone else's water from as far north as the hills of north and east Mississippi and possibly as far north as southwest Tennessee.

The Yazoo pumps would give a stable and controllable water level where none exist under present conditions. Game management would be enhanced because excessively high stages of water that cover ground-grown food sources for wildlife would be avoided. As conditions are now, the water reaches the high stages so that deer are isolated on ridges, levees, and roadways where they starve or are victimized by poachers. Squirrels, raccoons, turkeys, and rabbits have no place to feed in much of their native habitat areas, and even ducks who are shallow water feeders find no benefit in excessively high water.

There are those who say that having better flood control and drainage in the Yazoo basin will result in more clearing of farmland, but this is not true for two reasons. No. 1, sodbuster legislation in our agricultural sector makes clearing more land for farming practically impossible; and No. 2, any farmer who clears land with the aim of farming it cannot participate in any Government agriculture programs. Without these agriculture programs that he can participate in, the American farmer cannot operate profitably. It is clear that the days of land clearing are well in the past with the exception of land cleared for roads and other public purposes and Government development.

Within the past month, I, myself, have been in the lower Yazoo basin with our Congressman, Mike Espy, and Mississippi's Lieutenant Governor Brad Dye. I have personally seen a total of more than 150 white tail deer in several herds that had been pushed out of their habitat by high water and were bunched up along the landside toe of the east bank of the Mississippi River levee in Issaquena County.

In most of our towns in the Yazoo basin, much medium- and low-income residential development is in low-lying areas. The majority of this housing is occupied by our black friends who are so vital to the Yazoo basin's economy. These minority residents often cannot afford the cost of housing in areas that are floodfree all the time.

Gentlemen, we implore you to recognize that without the Yazoo backwater pumps we face much more than an inconvenience. Our plight becomes a catastrophe. Since 1941 we have looked forward to the development of the Yazoo basin project with the backwater pumps being an integral part of it, as certainly they should be.

For our Federal Government to abdicate its valid obligation to release this improperly withheld $4 million appropriation for the Yazoo backwater pump project to be continued would constitute a deep breach of face with the hard-working people of the Yazoo basin.

Mr. Chairman, we look to you and this committee to place clarifying language into the law that will enable the building of the backwater pumps free of cost sharing. The money has already been appropriated. It is there and waiting to be used. A sketch of the already-started Yazoo backwater pumps project is the last sheet of my statement.

You are most considerate to let us have this opportunity to appear before this committee, and we are sincerely grateful to you for hearing our statements today as well as in past years. We do hope that your schedules will permit your being our guest in attending the reception and buffet at 5:30 p.m. this evening in room 106 of the Dirksen Senate Office Building.

Mr. Chairman, let me introduce our next speaker, Mr. H.A. Boughton, president of Tensas Levee Board with headquarters in Rayville, LA.

STATEMENT OF H.A. BOUGHTON, PRESIDENT, TENSAS BASIN LEVEE DISTRICT

Mr. BOUGHTON. Mr. Chairman, members of the committee, let me assure you that even though I could not sit at the front table to begin with, our situation is of great importance, too.

Senator JOHNSTON. We should have had you sitting up here, Mr. Boughton, being from Rayville, LA. In fact, we will let you vote.

Mr. BOUGHTON. Gentlemen, the area in which we live is bordered on the west by the Ouachita River and on the east by the Tensas River, both of those rivers come out of Arkansas. Levees were constructed in the early 1930's under the Flood Control Act of May 15, 1928. Our board of commissioners agreed at the time to operate and maintain the levee systems in accordance with this act. This requires us to perform minor maintenance such as cutting grass, providing local drainage and minor repairs to the levee. The remaining maintenance is and should be the Federal responsibility. We agree with this.

The levees were built in conjunction with the Beouf basin floodway which was later abandoned by the Flood Control Act of August 1941. Even though the floodway was abandoned, the need for the levees continues and, in fact, grows each year as more water is poured into the system from improvements that are built further north of us.

COST-SHARING ISSUE

The Army Corps of Engineers in the Vicksburg District published a summary report for the Ouachita River levees in August 1986. This report details the existing conditions of the levee system within our district and provides detail recommendations to improve the system to provide a uniform level of flood protection within the Ouachita River basin.

The total cost of this project is $18,226,000. Obviously, $5,240,000 will determine to be Federal cost, and $12,956,000 will be local cost. As you might readily see, the proportion is 28-percent Federal cost and 72-percent non-Federal or local cost.

Normally when we thought of cost sharing, the Federal cost would be 70 percent, and the non-Federal or our cost would be 30

percent. Our board has never agreed with the cost-sharing philosophy and cannot levy the taxes to fund our share of any new construction because we are in an economically distressed area.

We are, however, willing to go along with this repair project on a cost-sharing basis because it is an emergency. Failure of this levee system during periods of high water would be catastrophic for the city of Monroe, West Monroe, as well as a number of other towns and industries in the outlying area.

The crux of the matter revolves around the $6,716,000 that the Corps said is needed to replace the metal drainage pipes that were placed in this levee other 50 years ago. My board does not have the funds to do this. In fact, we will be strapped to meet the normal 30 percent of the project which should be $5,467,000. This, however, we will endeavor to do. We will uphold our commitment.

In closing, gentlemen, our board is asking this honorable committee to please consider the funding of the $6,716,000 needed for the repair of these structures.

Gentlemen, thank you for hearing me today, and our final speaker today will be Mr. Curtis Patterson, who is the assistant engineer for the Louisiana Department of Water Resources.

Senator JOHNSTON. We are glad to have Mr. Patterson here, too. We are glad to have all of you, but especially these fine Louisiana people.

STATEMENT OF CURTIS PATTERSON, CHIEF ENGINEER, LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, OFFICE OF PUBLIC WORKS

Mr. PATTERSON. As you realize and as they usually say, they saved the best for last.

Mr. Chairman and members of this subcommittee, I am glad to be with you here this morning. I am Curtis Patterson, assistant chief engineer for water resources in the Department of Transportation and Development for the State of Louisiana. I am also secretary and treasurer of the Association of Levee Boards of Louisiana.

My comments today summarize the written brief that is submitted in the name of Governor Buddy Roemer and reflects the needs of the State of Louisiana including the needs of the various levee boards making up the Association of Levee Boards in Louisiana.

Our statement fully supports the proposed budget as submitted for the Mississippi River and tributaries flood control projects for the State of Louisiana.

COASTAL WETLANDS DETERIORATION

I would like to bring several important items to your attention concerning authorized but not MRT projects in our State.

Our coastal marshes are fast disappearing, and our famous fisheries industry is deteriorating. We need to do all that we can do as quickly as we can to stop these devastating losses.

The Corps of Engineers has just last year published a brochure entitled "'Crises on Louisiana's Coast, America's Loss'. It is, we feel, America's loss, not just the State of Louisiana. Louisiana marshes produce each year some 30 percent of the Nation's fisheries worth $680 millon and 40 percent of the Nation's wild fur and hides harvest worth $17 million.

More than 66 percent of the water fowl that use the Mississippi flyaway find winter haven in Louisiana's wetlands, another $58 million per year industry.

Now, 22 percent of the Nation's oil and gas production, worth some $27 billion in 1985, came from Louisiana's wetlands and offshore waters. The marshes also act as a natural buffer to hurricanes, protecting the Nation's investment in the inland navigation system and ports. I mention this as support for the finding that protecting and preserving Louisiana's coastal area will produce national benefits. Congress in the Water Resources Development Act of 1986, referred to as Public Law 99-662, makes this statement:

> That fish and wildlife measures carried out as part of the project for the Atchafalaya floodway system in Louisiana authorized by Public Law 99-88, and the project for Mississippi delta region in Louisiana authorized by Flood Control Act of 1965, shall be considered to provide benefits that are national for purposes of this section.

Caernarvon and Davis Pond Freshwater Diversion Projects

But in order to get the first of these projects, the Caernarvon freshwater diversion project, to construction which was to be all Federal cost according to that 1986 Water Resources Development Act, Louisiana had to come up with 25 percent of the funds even though the State is in very poor financial condition at this time.

We are committed, then, to saving our coastline, and we urge Congress to be just as committed and honor its full obligation when funding these projects that have national benefits.

The second freshwater diversion project at Davis Pond, just upstream from New Orleans, is now in preconstruction design and engineering, and we urge Congress to fund it fully. The Caernarvon and Davis Pond freshwater diversion projects are mitigation measures for fish and wildlife losses for the Mississippi River and tributaries flood control project entitled the Mississippi delta region Louisiana project.

Mississippi and Louisiana Estuarine Area Project

Another freshwater diversion project, the Mississippi and Louisiana estuarine areas project, is not included in the Corps' budget request for fiscal year 1990. We request that some means be found to allow the Corps to start preconstruction design and engineering. We need to get moving on all of these coastal projects and request your favorable consideration for appropriation of funds on all the coastal measures for Louisiana listed in the budget.

We in Louisiana under the leadership of Governor Buddy Roemer will be taking our wetland loss problems much more seriously than may have been done in the past. It is the Governor's personal concern for the catastrophic loss of wetlands in coastal Louisiana that led him almost a year ago to establish a policy committee on coastal restorations composed of cabinet-level officials and to charge them with developing recommendations to attack the coastal wetland loss problem.

Implementation of the recommendations of the policy committee would, in effect, allow us in Louisiana to begin to accomplish the no net loss of wetlands goal of the current national adminstration.

The State fully supports the Red River Waterway, Mississippi River to Shreveport project. We are, however, requesting that some means be found to make a start on the beginning phases of construction of lock and dams 4 and 5.

In addition to this, a very important lake known as Lake Bistineau near the Shreveport-Bossier City area is in danger of imminent failure due to the approach of headcutting of an outfall channel serving the spillway for this lake. We need to build a water control structure downstream of the problem area to create a pool of water in the problem area and thereby stop the headcutting process that is occurring before we lose the spillway to the lake.

This danger point is already less than a mile from the spillway. Under the Red River Waterway project, mitigation of wildlife losses amounting to some 14,000 acres has already been authorized. Much of these mitigation lands, possibly up to nearly 5,000 acres, could be acquired in the vicinity of where we need to construct this structure. These lands would also be adjacent to the already existing State-owned Loggy Bayou wildlife management area. It would greatly facilitate the needs of the State in its attempt to construct this water control structure if a means could be found to acquire these lands as part of the mitigation authorization and if this could be done at the earliest opportunity.

West Wego to Harvey Canal

Another project of great concern in the metropolitan area of New Orleans is the flood protection work needed on the west bank of the Mississippi River. We request that the West Wego to Harvey Canal project be added to the Corps 1990 budget at a $1.1 million level as a new construction start. This is not part of the MRT.

As a result of extensive flooding in this area by Hurricane Wan in 1985, the West Jefferson Levee District along with the State has spent large sums of money to make soils investigations and surveys to determine right-of-way needs in an attempt to try to accelerate the project.

One major floodgate has been constructed as well as an important section of the levee, all at State and Levee Board expense.

The Corps of Engineers has completed a design memorandum on a massive flood wall which could be ready to go to construction in the near future should funds be made available. Other projects that they support in cooperation with the affected levee boards in Louisiana under the Mississippi River and tributaries appropriation are the Atchafalaya basin, the Atchafalaya basin floodway system, the Tensas basin, and the Mississippi River channel improvement and levees projects. We support the budget request for these projects.

The work along the Mississippi River levees and the Atchafalaya basin is progressing. It is not maybe progressing as fast as it should, and we need to keep those going. There are many facets of the Atchafalaya basin project that lead to wetland preservation. As mentioned to you earlier, due to our devastating losses of wetlands, we certainly need to keep those going and incorporate those items of work that lead to the preservation of the wetlands in the Atchafalaya basin.

The Tensas Basin Levee District has already brought to you their problem. The State of Louisiana supports their request. We feel that the proposed work in the changing of the culverts is considered a major restoration and not just a general form of maintenance activities. It would create a great hardship on this levee district were their general funds for operation and maintenance not to include this great need of cost and work involved.

We understand that at the Federal level we are trying to divert some of the costs to the various local interests and the States in order to help pay for these projects, but in this case when the 70/30 gets reversed to a 30/70, we feel that maybe an overkill has been accomplished in this particular instance and we ask for your full consideration in reviewing this matter.

With permission of the committee, I am submitting for the record a written statement of appropriations for flood control, navigation, hurricane protection, coastal restoration, and other water resource projects in Louisiana. This statement generally supports the President's recommendation for these projects with the comments previously mentioned. We will consider your consideration of all of the critical program needs and assure you that the State of Louisiana will attempt to honor its agreements as needed.

Thank you so much for allowing us this opportunity to discuss them with you today.

[The statement follows:]

STATEMENT OF BUDDY ROEMER, GOVERNOR, STATE OF LOUISIANA

Mr. Chairman, members of the Subcommittee thank you for the opportunity to present the State of Louisiana's public works appropriation recommendations for FY 1990. My statement focuses on these parts: discussions on coastal wetland deterioration, flood control and navigation concerns, and specific amendments proposed to the administration's budget allowance.

Coastal Wetlands Deterioration

Coastal wetland loss in Louisiana exceeds 30,000 acres per year. In May 1988 I established a Coastal Restoration Policy Committee consisting of cabinet-level officials charged with developing a set of prioritized recommendations to preserve, enhance and restore vegetated wetlands in coastal Louisiana. The Policy Committee presented me with their report in August 1988.

That report identifies a number of recommendations which, if funds and authorities allow, could be implemented immediately or in the short term to slow the rate of wetland loss in coastal Louisiana. The report also provides a number of long-term recommendations dealing with measures to restore or create vegetated wetlands in areas where they have been lost. Those recommendations (e.g., major diversions of water and sediment from the Atchafalaya and Mississippi Rivers into coastal marshlands) are likely to have far-reaching impacts: socially, economically, and politically. Nevertheless, they must be addressed; any real success in conserving and reclaiming even a portion of Louisiana's wetlands can only be accomplished through the implementation of such measures.

We in the State are coordinating closely with the Corps of Engineers and other Federal agencies in an attempt to initiate the final phase of a Louisiana Comprehensive Coastal Wetlands Study; we endorse your funding the Federal share of the costs of that study. The primary purpose of the study is to evaluate the currently proposed long-term recommendations of my Policy Committee and any other plans which the Corps of Engineers and the State of Louisiana mutually agree have reasonable merit in the battle against wetland deterioration.

The study output would not be traditional in the sense that a benefit/cost ratio above parity would be required to recommend Federal funding. Sufficient legislative authority exists under Section 907 of PL 99-662 to allow Federal funding for projects that offer real opportunity to benefit fish, wildlife and their habitats, without requiring that monetary benefits exceed costs. The study would list alternative recommendations intended to enhance and restore coastal wetlands in Louisiana. Prioritization of recommendations would be based on anticipated success in accomplishing the goals of wetland enhancement and restoration, and to some degree on comparative costs, while not allowing the traditional benefit/cost analysis to be the driving force in selecting among a number of viable alternatives.

Section 906(f) of PL 99-662 authorizes that the first costs of enhancement measures carried out for the Mississippi Delta Region, Louisiana Project, (specifically the Caernarvon and Davis Pond Freshwater Diversion Projects) shall be 100 percent Federal. Nevertheless, the State was forced to agree to provide 25 percent of the costs of the Caernarvon Structure in order to get construction initiated. We expect at least a 25 percent state cost-share request for construction of the Davis Pond Structure.

Section 3(a)(8) of PL 100-676 authorized construction of the Bonnet Carre' Freshwater Diversion Structure, as a companion to the two previously

mentioned. The authorizing legislation was mute in regards to cost-sharing, although the fish and wildlife resources to be enhanced by this project must also be considered National (pursuant to Section 906(e) of PL 99-662). The Bonnet Carre' Diversion would directly benefit the resources of both Louisiana and Mississippi. The maintenance of the Gulf of Mexico fishery depends heavily on Louisiana's wetlands. The waterfowl population of the Mississippi Flyway cannot be sustained without maintenance of the wetlands to be benefitted by this project. This, of course, would justify the first costs of construction to be 100 percent Federal.

The dwindling renewable coastal resources of Louisiana are of National significance. Congress has indicated at least the intention that two of the freshwater diversion projects (Caernarvon and Davis Pond) be constructed entirely at Federal cost. Considering the National significance of the benefits to accrue from the Bonnet Carre' Structure, we hope that you share our view that Federal funds adequate to construct all three structures should be appropriated.

Those three freshwater diversion projects are to be the first water resources development measures undertaken by the New Orleans District Corps of Engineers in the name of fish, wildlife and wetland enhancement. The Corps' traditional mission, that essentially limits its focus to navigation and flood control matters, has contributed substantially to the deterioration of the vast coastal marshes of Louisiana. We strongly encourage expansion of the current mission of the Corps to include (on a co-equal status with flood control and navigation) protection, enhancement and creation of vegetated wetlands. Specifically, Section 1155 (PL 99-662) should be extended for another 10 years at a $10 million per year appropriation level. Its implementation should be considered to be among the highest of priorities.

We applaud President Bush's new national goal of "No net loss of wetlands." We disagree with Assistant Secretary of the Army Robert Page's observation (in testimony to the House Appropriations Subcommittee on January 31, 1989) that "... no net loss is by nation, not by specific projects." To believe that is tantamount to acknowledging that wetland losses from individual, Federally-sponsored or permitted projects have never been nor can they ever be mitigated. The record, in Louisiana, clearly shows that when a genuine effort was made by the Corps to mitigate adverse wetland impacts from a water resource development project or to require appropriate mitigation from the recipient of a Federal permit on a case-by-case basis, that mitigation generally proved to be effective and successful. There is no reason to assume that this could not continue to be the rule rather than the exception. In Louisiana there is ample opportunity within our vast reaches of deteriorating coastal wetlands to provide adequate area to mitigate future water development projects. We believe that a no net loss of wetlands goal from development via mitigation <u>is attainable</u>.

It is not surprising that so few Section 404 permits for non-water dependent activities in wetlands are ever denied by the Corps of Engineers, when Mr. Page himself (in testimony to the House Appropriations Subcommittee on January 31, 1989) finds "... the concept of non-water dependency so unclean." Probably the most widely accepted definition of non-water dependency is found in EPA's 404 (b)(1) Guidelines, promulgated pursuant to the Clean Water Act. By definition, a non-water dependent activity is one that does not require access or proximity to or siting within a wetland to fulfill its basic purpose. Even to the most liberal regulator, it should appear reasonable to assume that condominiums, hotels, motels, golf courses, airports and shopping centers, to name a few, do not, to fulfill their basic purpose, need to be sited within a wetland. The Louisiana Legislature in its upcoming regular session will be considering a legislative proposal to <u>prohibit</u> non-water dependent developments in

wetlands and to require full mitigation of water-dependent developments that are allowed in its wetlands. We would encourage similar National legislation.

Regarding the Avoca Island Levee Extension, it is important to remember the limits of the benefits to accrue from the levee and to carefully weigh these limited benefits against the levee's estimated cost. Backwater flooding is only one of the causes of flooding being experienced in the area east of the Atchafalaya Basin Floodway. Flooding caused by headwater runoff, tidal influence, hurricanes and rapid subsidence will continue to plague this area even after the $120 million (plus) levee extension is installed. My staff is, at this time, working with local government officials in the impact area to develop alternatives to the Corps' proposed Avoca Island Levee Extension. An alternative barrier levee plan now under development may prove feasible, and at a cost near that proposed to be spent for the levee extension. A well-planned barrier levee would provide flood relief from other forms of flooding and would result in fewer environmental damages. We urge you to hold your support for any Corps proposal to extend the Avoca Island Levee until alternative options can be fully explored.

We in the State have identified a number of measures that, if implemented quickly, could have an immediate positive impact on the wetland loss problem. Some of these measures are a primary responsibility of the State, in cooperation with local governments and private individuals. Many of those recommendations involve modifying the operation or maintenance procedures of recently authorized or on-going Corps of Engineers projects in Louisiana and, accordingly, must be implemented through that agency.

Flood Control and Navigation

Since 1879 local expenditures for flood control in Louisiana have exceeded $730 million. This amount adjusted to 1979 dollars represents expenditures in excess of $5.3 billion. Nearly one-half of the potential flooded area of the Lower Mississippi River Valley lies in Louisiana. This record not only meets, but exceeds any National Water Policy local participation requirement ever put into practice.

The State of Louisiana has historically supported and provided the non-federal cooperation needs in assisting and developing navigation improvements in Louisiana for National benefit. Louisiana has three of the top deep water ports and 18 shallow draft port facilities in the country. We intend to continue to provide the country with the benefits to access to foreign markets.

The Office of Management and Budget has proposed a 50% reduction and a 50/50 cost share for both the Floodplain Management Services Program (Section 206 of the 1960 Flood Control Act) and Planning Assistance to States Program (Section 22 of the 1974 Water Resources Development Act). The FY 90 request of $10.5 million for Section 206 and $5 million for Section 22 represents a 5% and a 9% increase over FY 89 appropriations respectively. These two programs are not grant programs in as much as they provide extensive flood loss reduction services and information to state and local governments. These services include such things as specific base flood hazard data and mapping, hurricane evacuation studies (including New Orleans and 9 surrounding parishes), coastal land loss and erosion control data, and basic planning assistance in flood control and water supply and waste water treatment. Since these two programs are not grant programs, it is recommended that the 50/50 cost share be eliminated and that the requested funding for FY 90 be restored.

We generally endorse the Administration's FY 90 budget request for water resource projects in Louisiana with the exception of the following specific amendments:

Louisiana Shoreline Erosion Inventory

(Budget: 0) (Request: $50,000)
One of the recommendations that have been made to reduce or stabilize coastal barrier islands and headlands involves nourishment of these areas with offshore bottom sediments. It is critical then that inventories of available bottom sediments in these areas be developed. We recommend that this inventory be initiated in this fiscal year.

Mississippi and Louisiana Estuarine Areas

(Budget: 0) (Request: $1,000,000)
It is our understanding that preparation of final plans and specifications are nearing completion. We note, however, that the Administration has not requested funding to begin construction. In view of the significant enhancement value of this project to coastal wetlands and associated fish and wildlife resources, we urge that it be funded to start construction this fiscal year.

Mermentau, Vermilion and Calcasieu Rivers and Bayou Teche
(Grand and White Lakes Area)

(Budget: 0) (Request: $100,000)
We recommend the appropriation of funds necessary to allow the Corps to have the staff capability to operate the Catfish and Schooner Bayou Water Control Structures in southwest Louisiana on a 24-hour basis. It is widely recognized that water is currently being impounded to an excessive level, to the detriment of marsh, in the Grand and White Lakes area, partially as a result of the inability of the Corps to operate these structures on a round-the-clock basis and to take advantage of every opportunity to lower water levels. While waiting for the completion of a Corps study of management needs in the entire area, we believe that this measure would significantly enhance marshes now.

Algiers Lock

(Budget: 0) (Request: $25,000)
Operation of the Algiers Lock to allow freshwater to flow from the Mississippi River to the Barataria Basin would provide a reasonable, inexpensive opportunity to divert water into a basin that is currently suffering from saltwater intrusion problems. We, accordingly, encourage the appropriation of funds to allow the Corps to increase operation of the Algiers Lock to allow for freshwater diversion.

Maintenance Dredging for Marsh Creation

The New Orleans District annually dredges 60 million cubic yards of material in the maintenance of navigation channels. When considered by the Corps to be "economically feasible", some of this dredged material is used to create vegetated wetlands. If all of this material were deposited in shallow open water in coastal Louisiana over 6,000 acres of marsh could be created each year. On that basis, we recommend that additional funds be appropriated to the Corps to provide the "incentive" to maximize the use of dredged material to create marsh. As it is difficult to assess the precise amount of additional funding that would be required, we are recommending additional funding in the amount of 10 percent for each of the projects listed below. This is to be provided specifically to cover the additional costs that might be associated with spoil placement for marsh creation. If the Corps were to determine that actual cost requirements would exceed 10

percent, we would encourage an increase in allowance to the extent needed to accomplish the goal of maximizing marsh creation with dredged material.

Projects for which increased funding is requested for marsh creation with dredged material include the Atchafalaya River, Bayou Chene Boeuf and Black; Barataria Bay Waterway; Calcasieu River and Pass; Gulf Intracoastal Waterway; Houma Navigation Canal; Mermentau River; Mississippi River, Baton Rouge to the Gulf; Mississippi River Gulf Outlet; Mississippi River Outlets, Venice; Pearl River; and the Bayou Lafourche and Lafourche - Jump Waterway.

Atchafalaya Basin

(Budget: $32,800,000) (Request: $32,800,000)
The Sherburne freshwater control structure will provide the hydrologic capability to improve fishery and waterfowl habitat conditions on the State Sherburne Wildlife Management Area, Atchafalaya National Wildlife Refuge and Corps of Engineers recreation lands in the floodway. The structure will mitigate problems that have resulted from blockage of flow resulting from construction of the main river levees. Construction of the structure should be added to the administration proposal as a priority activity for FY 1990.

Atchafalaya Basin Floodway System

(Budget: $11,700,000) (Request: $11,700,000)
Acquisition of lands in fee title from willing sellers should continue as the first priority. Acquisition of the authorized environmental protection easements should proceed subsequent to but not before a Memorandum of Agreement between the state and Corps of Engineers, wherein the State agrees to assume management responsibility, is consummated. The easement rights to be purchased should include the right to provide control over the method of timber harvest as is specifically addressed in the Corps' report upon which authorization is based. Merely the regulation of clear cutting as addressed in the November 1988 Real Estate Design Memorandum is not adequate. The forested wetlands of the Atchafalaya Floodway require environmentally sensitive timber cutting regulations specific to the area.

Red River Waterway

(Budget: $97,000,000) (Request: $101,800,000)
A $2,500,000 appropriation for the acquisition of up to 5,000 acres of mitigation lands in the Stumpy Lake / Swan Lake / Loggy Bayou Wildlife Management Area vicinity is required. Construction of the waterway is proceeding. Our proposal is conservative in that it represents less than 40 percent of the authorized level of mitigation. Acquisition of lands in this specific amount would contribute significantly to state efforts to solve the Stumpy Lake / Lake Bistineau erosion problem, capitalize on the availability of low cost lands from willing sellers and allow the state to maximize wetland and waterfowl benefits from design and operation of its Stumpy Lake / Lake Bistineau erosion control project. In addition, we are requesting $2.3 million to begin construction on Locks and Dams 4 and 5 and to do work on the Vick extension, Saline Bend Dike and Blakewood, Pump Bayou and Grand Lake reinforcement dikes in Fiscal Year 1990.

The State of Louisiana wishes to commend the Appropriations Sub-Committees on Energy and Water Development and to express our appreciation for the foresight and understanding exhibited for water resources projects which are vital to National and our State interests. We solicit your further consideration of the recommendations presented herein.

National Wetlands Policy

Senator Johnston. Thank you very much, Mr. Patterson. As you know, I have been a very strong supporter of wetlands restoration. I strongly support the President's statement that we have no net loss of wetlands. The only problem is it is lip service. There is no money provided by the President in his budget for wetland restoration.

That is why I introduced legislation which provided that from the Arctic National Wildlife Refuge revenues, when and if authorized, that we would get 15 percent of those revenues for wetlands restoration nationwide. That 15 percent would probably amount to something like $300 million in the first year with many millions of dollars to come every year thereafter. Not all of that is for Louisiana, but since Louisiana has about 60 percent of the wetland loss nationwide, clearly a very large proportion of that would go for that.

Now, we could not have had a worse time for an oilspill. There is never a good time, but there could not conceivably have been a worse time or a worse oilspill.

Now the reason that we needed to get that fund and get the money from that fund is that is new money. That does not need to compete with other parts of the budget because it is not now in the budget.

Money which is now in the budget must compete with all of these other needs, and you have to stand in line with everyone else not to get an increase but to take really a cut. We have had these budgets cut every single year.

So you have heard this morning these tremendous needs all around the country, and these are only the top needs. I say the top needs because they are in our part of the country, and we like to take care of those first.

Nevertheless, it is a serious kind of money we are talking about for wetlands restoration. We are not talking about $1 million here and $2 million there. We are talking about hundreds of millions of dollars.

You will notice these three projects alone, Bonnet Carre, Caernarvon, and the Davis Pond project, are $160 million, and that is just a bare beginning on just a small piece of our wetlands problem. We would need, as I say, hundreds and hundreds of millions of dollars and, of course, the State of Louisiana would have to share to some extent in those costs. I would hope we would recognize those costs as being a national concern since it is a national fishery. We provide 1 billion dollars' worth of seafood from that fishery every year. It is a very valuable national resource.

Now the fact that there may be a delay in the Alaskan drilling project does not mean that we can afford to walk away from our wetlands loss problem, but it does mean that the scope of the amount of money that we might hope for would have to be scaled down somewhat from the size that we really need and the size that Alaska would produce.

I can assure you that I am going to continue in every way to support legislation. Senator Breaux and I have legislation in his committee. We will pursue that. We will pursue funding through this

committee for those three projects to which I just referred as well as the others that you mentioned in your statement.

We will do the dead level best we can considering the budget crisis which we have in the country and in this committee in particular.

Senator Cochran, did you have some comments?

STATEMENT OF SENATOR COCHRAN

Senator COCHRAN. Thank you, Mr. Chairman. I am glad to have a chance to welcome to our committee this panel of witnesses and to thank them for taking time to be here and to help us understand some of the practical problems that are being endured and confronted in the lower Mississippi River Valley.

I am particularly pleased to see Mark Simmons and Drue Lundy, citizens of our State of Mississippi, as members of this panel. They are two of our finest citizens, and they do a great job of providing leadership in this important and critical area of flood control protection in our State.

I might observe, Mr. Chairman, that the Lower Mississippi Valley Development Commission has been created by virtue of legislation that both the chairman and I have supported, with others in the House and Senate, for the purpose of trying to analyze the economic problems of this region.

One of the things that is called for in the legislation is the development of a plan or a strategy to deal with the economic problems of the lower Mississippi River Valley and the people who live there.

I am hopeful that as this study is done and this strategy developed, there will be an appreciation of the flood control needs of this region and that flood control will be mentioned or considered and commented upon by the commission as we try to assess how to deal more effectively with the economic problems of the Mississippi River Valley. I happen to believe that the Mississippi River and tributaries project is extremely important in any long-range plan or strategy for economic development of this region, and I hope the commission will review that and comment on it and try to emphasize the relevance of this project to the economic future of the people of the region.

Mr. Chairman, I also want to observe that as we proceed this year with the appropriations process, we have new issues of separability, cost sharing, the hardship exception, environmental impact review requirements, economic feasibility, and mitigation of habitat losses. They continue to be debated, some more emotionally than ever before.

This is necessarily going to make the appropriations process more difficult than at any time in the past.

Those are the realities, I think, of the situation we face, but let me again reiterate my support for the completion of the Mississippi River and tributaries project.

YAZOO BASIN BACKWATER PUMPING PLANT

Last year, as the witnesses who are here have already mentioned, this committee specifically stated in its report on page 39,

in connection with one aspect of the Mississippi River and tributaries project, the Yazoo backwater pumping plant, that an amount of $4 million has been included in the bill for continued construction of this project in Mississippi.

That section concludes with these words:

> Therefore, the Committee directs the Secretary of the Army and the Chief of Engineers to obligate the funds appropriated for this critical element of the Mississippi River and tributaries project.

Mr. Chairman, I suggest that it would be appropriate this year for the committee to again review the language that was approved last year and consider reasserting it and making it even stronger to describe the views of the members of this subcommittee and the full Appropriations Committee of the Senate.

Mr. Chairman, I have no questions. I understand we do have other witnesses, and I do not want to take up their time or the further time of this committee except to thank you again for your recognition, your leadership, and your stalwart work on this important subcommittee of the Senate.

Senator JOHNSTON. Thank you very much, Senator Cochran. I know we will be working together not only on these projects but to get more money for water resources in general, an investment in America that is not an expenditure that is gone the next week or the next month after you make it but is there for future generations.

ADDITIONAL PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Gentlemen, thank you very much for excellent testimony. We appreciate your being here.

All of the additional supporting statements which have been submitted will be made part of the record.

[The statements follow:]

STATEMENT OF LARRY D. DOWDY, THE LITTLE RIVER DRAINAGE DISTRICT

MY NAME IS LARRY D. DOWDY. I LIVE IN CAPE GIRARDEAU, MISSOURI AND SERVE AS MAINTENANCE SUPERVISOR FOR THE LITTLE RIVER DRAINAGE DISTRICT OF SOUTHEAST MISSOURI. MY TESTIMONY WILL RELATE SPECIFICALLY TO F. Y. 1990 APPROPRIATIONS FOR THE ST. FRANCIS BASIN PROJECT OF THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT.

I AM TESTIFYING TODAY ON BEHALF OF LEVEE AND DRAINAGE DISTRICTS WITHIN THE ST. FRANCIS BASIN PROJECT IN SOUTHEAST MISSOURI AND NORTHEAST ARKANSAS. ALL OF THE DRAINAGE AND LEVEE DISTRICTS REPRESENTED ARE LOCALLY TAX FUNDED AND OPERATED AND MOST ARE DEPENDENT UPON OTHERS FOR THEIR OUTLETS INTO THE ST. FRANCIS AND MISSISSIPPI RIVERS.

THE F. Y. 1990 BUDGET INCLUDES $10.5 MILLION FOR CONSTRUCTION IN THE ST. FRANCIS BASIN PROJECT. WE BELIEVE THE AMOUNT IN THE BUDGET WILL ADEQUATELY FUND AND GIVE AUTHORIZED WORKS A REASONABLE AMOUNT OF PROGRESS. FURTHER THE ST. JOHNS BAYOU AND NEW MADRID FLOODWAY HAS AN AMOUNT OF $300,000 WHICH WE BELIEVE IS A REASONABLE REQUEST TO CONTINUE THAT PROJECT. WE STRONGLY SUPPORT THESE AMOUNTS AND TRUST THAT THIS COMMITTEE WILL ACT FAVORABLY UPON THESE AMOUNTS APPROPRIATED IN THE PRESIDENT'S BUDGET FOR F. Y. 1990.

WE ALSO SUPPORT THE OVERALL ASKING BY THE LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION FOR THE OVERALL MISSISSIPPI RIVER AND TRIBUTARIES PROJECT WHICH AMOUNTS TO $337,000,000. WE BELIEVE THIS AMOUNT IS PROPER AND IF EFFICIENTLY APPLIED WILL BE SUFFICIENT FOR AN ORDERLY ADVANCEMENT OF ALL OF THE BUDGETED ITEMS AS SET OUT IN THE PRESIDENT'S BUDGET.

LOCAL INTEREST IS PRESENTLY FACING A NEW PROBLEM IN LIEU OF THE NEW CRITERIA THAT HAS BEEN IMPOSED UPON IT CONCERNING THE COST SHARING REQUIREMENTS. MOST LOCAL ENTITIES WILL NOT BE ABLE TO PROVIDE THEIR PORTION OF THE FIVE PERCENT (5%) UP FRONT MONEY NOR THE TWENTY-FIVE PERCENT (25%) OF THE OVERALL COST, WHICH BASICALLY MEANS THAT THE PROJECTS THAT HAVE BEEN FUNDED AND HAVE BEEN AUTHORIZED WILL NOT BE COMPLETED UNLESS THIS COST SHARING REQUIREMENT IS EITHER ALTERED OR CHANGED. IT APPEARS TO OUR DISTRICT THAT MANY PROJECTS THAT ARE NEEDED AND WILL PROVIDE THIS GREAT NATION OF OURS A GOOD RETURN ON ITS TAX DOLLARS, WILL NOT BECOME A REALITY DUE TO LOCAL INTEREST NOT BEING ABLE TO PAY. HOWEVER, THERE WILL BE SOME PROJECTS SMALL IN NATURE BUT WHICH WILL RETURN ONLY A SMALL BENEFIT THAT WILL BE DONE BECAUSE THOSE WHO ARE FINANCIALLY SUPPORTABLE WILL BE ABLE TO PROVIDE THEIR SHARE. WE WOULD ASK THAT THIS COMMITTEE DO WHATEVER IT CAN TO RELIEVE THIS BURDEN IN ORDER THAT THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT CAN CONTINUE AND THAT THE MANY AREAS AFFECTED WILL BE ABLE TO RECEIVE BENEFITS WHENEVER NEEDED PROJECTS ARE COMPLETED.

LET ME GIVE YOU ONE PROJECT IN OUR IMMEDIATE AREA WHICH WILL GO UNDONE BECAUSE OF THIS CRITERIA. A STUDY WAS REQUESTED TO EXTEND WORK ON CASTOR RIVER ABOVE WHAT THE CORPS WILL SOON FINISH. PRELIMINARY FINDINGS SHOWED A FAVORABLE BENEFIT-COST RATIO BUT LOCAL INTERESTS WILL NOT BE ABLE TO AFFORD THEIR PORTION AND IF THEY COULD, MAINTENANCE THEREAFTER WOULD NOT BE POSSIBLE BECAUSE OF FUNDING. THIS WILL RESULT IN CONTINUED FLOODING OF LANDS, ROADS, HOMES ETC. FOR YEARS HENCE BECAUSE LOCAL INTERESTS ARE NOT FUNDED WELL ENOUGH TO DO THE NECESSARY WORKS. YET THESE SUFFERING FROM SUCH FLOODING ARE DOING SO BECAUSE OF WATERS RUNNING OFF FROM LANDS SEVERAL MILES AWAY. THERE APPEARS AT THIS TIME LITTLE, IF ANY, RELIEF IN SIGHT.

WE GREATLY APPRECIATE BEING GIVEN THIS OPPORTUNITY TO APPEAR BEFORE THIS COMMITTEE AND TO MAKE YOU AWARE OF THE NEEDS OF OUR AREA. WE ARE CONFIDENT THAT OUR REQUESTS WILL RECEIVE THE SAME POSITIVE CONSIDERATIONS AFFORDED US IN THE PAST. WE HAVE A NUMBER OF INDIVIDUALS PRESENT WITH US TODAY WHO HAVE TRAVELED GREAT DISTANCES AND WHO HAVE TAKEN THE TIME AWAY FROM THEIR BUSY SCHEDULES TO SHOW THEIR CONTINUED SUPPORT FOR THE ST. FRANCIS BASIN PROJECT. WE ALSO SUPPORT THE OTHER REQUESTS MADE BY THE OTHER WITNESSES OF THE LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION.

STATEMENT OF E.B. GEE, JR., PRESIDENT, THE ST. JOHN'S BAYOU BASIN DRAINAGE DISTRICT

The St. John's Bayou Basin Drainage District is located at the bottom of the watershed comprising the West Part of the St. John Bayou--New Madrid Floodway proposed project and would be the site of the St. John Bayou Pumping Station and seasonal Ponding Easements.

This District does not have the legal capacity to raise or pay the authorized cost sharing requirements, it does have some existing right of way to contribute to the proposed project.

It is requested that the St. John's Bayou Basin Drainage District be recognized as not having the ability to pay the non-federal costs of the project, but is a qualified project under the Water Resource Development Act of 1986.

STATEMENT OF JOSEPH F. MOONEY, JR., CHIEF ENGINEER, BOARD OF LEVEE COMMISSIONERS, YAZOO-MISSISSIPPI DELTA

I am Joseph F. Mooney, Jr. of Clarksdale, Mississippi and I am the Chief Engineer for the Yazoo-Mississippi Delta Levee Board. Our levee district and the Mississippi Levee Board headquartered at Greenville, Mississippi represent the citizens of the Yazoo Basin in matters of flood control and drainage. As spokesman for the Levee Board, I present this statement on behalf of the citizens of the Yazoo Basin.

We join the Lower Mississippi Valley Flood Control Association in thanking you for your consistent program of funding for these vitally needed flood control projects. We praise you for your vision and foresight in realizing the importance of these works to the economic well being of our nation and to the reasonable aspirations of our citizenry. Slowly but surely, you have reduced the destructive flooding which results from the drainage of 41 percent of the continental United States. You have greatly reduced the drain on the local and national economy by reducing flood damages. Now, the quality of life for our people has greatly improved, and our area contributes to our national prosperity greatly in excess of the investments you have made there.

Unfortunately, adequate funding of our projects is not our only need to accomplish the task and deliver the benefits which have been so patiently awaited. We need help to assure that over emphasis of other legitimate concerns do not result in unwarranted delays or changes to flood control projects. We are particularly concerned that environmental considerations are seen in their proper perspective and are treated with proper balance.

As a nation, we have become increasingly aware that there are environmental consequences to progress whether it is in the development of roads, houses, industries, or even flood control projects. In flood control and drainage work, there has been conscious and significant effort to reduce all forms of environmental damage. The U. S. Army Corps of Engineers are utilizing many innovative techniques to work around environmentally sensitive areas and to leave valuable habitat in as good or better condition when projects are completed.

The Congress has participated in this beneficial process by requiring coordination between the Corps of Engineers and other agencies such as the Fish and Wildlife Service. Where environmental damage is unavoidable in the construction of necessary projects, the Congress has authorized mitigation features to offset the damage. It would seem that you have made it possible for us to achieve balance in meeting our local and national needs. Sadly, it isn't working that way in practice.

There is a very well organized effort to stop or severely modify flood control projects in the Mississippi Valley, and the Yazoo Basin is a focal point right now. In their actions, project opponents seem to have little understanding of the details of the project and project purposes, otherwise, one would have to conclude that they do not care about the terrible costs to local interests and to the whole nation if they succeed in their goals. While they claim to seek only project modification to prevent damage to the environment, they uncompromisingly demand sweeping changes in project purpose. If they prevail, the project is doomed both because it then will not deliver the needed protection and because the local economy cannot afford the required cost sharing.

In discussing the mitigation of unavoidable damage, project opponents are quick to fault the Corps of Engineers and the Congress for not immediately identifying, authorizing, and funding complete mitigation for all elements of the project. They threaten to continue to oppose all projects unless the Congress agrees to fund mitigation concurrently or in advance of construction. It seems audacious that they should attempt to dictate to the Congress and hold worthwhile projects hostage to their demands.

It sometimes appears that the U. S. Fish and Wildlife Service uses this situation to their own advantage. They sometimes appear to ask for excessive consideration during the coordination process secure in the knowledge that the project opponents will

demand all of the askings of the U.S.F. & W. be met before the project proceeds. It seems only proper that if the U.S.F. & W. expects all of its mitigation demands to be funded through the MR & T project, then they should appear before you to explain the validity of their demands.

The persistence and determination of project opponents will be discussed by another witness who will speak on the Yazoo Backwater Pump. Every trick in the book is being used to circumvent the will of your Subcommittee. You have appropriated money for the construction of this pumping plant for years, yet, all efforts to spend the funds for the intended purpose have been thwarted.

I realize that this Committee is an appropriations committee and that you do not specifically deal with the matters I have mentioned, nevertheless, we have no better forum to tell what is happening to us. You, as Members of this Committee, are probably the single most knowledgable and experienced people in the evaluation of water resources and related development. You are the best judges of the short and long term effects of the problem I have related to you. You carry weight in the main bodies of the Congress. You can hold all agencies accountable for their actions as they impact on the projects you approve for funding. We know that you listen to us carefully and that you will help us in every way that you can.

I sincerely thank you for the support and encouragement you have consistently given to the flood control needs of the citizens of the Mississippi Valley.

STATEMENT OF THE BOARD OF LEVEE COMMISSIONERS OF THE PONTCHARTRAIN LEVEE DISTRICT

The Levee District

The Pontchartrain Levee District extends downstream from the City of Baton Rouge a distance of 115 river miles, includes the east (left descending) bank of the Mississippi River, and is comprised of portions of East Baton Rouge, Iberville, Ascension, St. James, St. John, and St. Charles Parishes. The Mississippi River east bank levee is continuous throughout the Levee District, including the Bonnet Carre Floodway.

Extensive development of major industries has taken place in the Pontchartrain Levee District. Along with industrial growth, our Levee District has witnessed a dramatic companion increase in residential and urban expansions. Substantial portions of the Levee District area are used for agriculture. Two nationally ranked deep-water ports are located in the Pontchartrain Levee District, the Baton Rouge Port and South Louisiana Port, and the New Orleans Port is immediately downstream.

The District contains numerous pipeline systems which deliver goods to nationwide distribution points. Interstate Highways 10 and 55 and a number of major U.S. Highways traverse the Levee District, along with major railroads. The Mississippi River 55-foot deep ship channel is the western Levee District boundary.

All these features and many other improvements are protected by the Mississippi River & Tributaries Flood Control Project. Only through continuous, effective flood control improvements and maintenance can this area and the lower river valley meet requirements to serve national needs for industry, employment, deep-water navigation, highway and rail transportation, major pipelines, residential, agriculture and related activities.

RECOMMENDATIONS

Mississippi River Levees: (Amount Budgeted: $24,400,000)

(Amount Recommended: $24,400,000)

A reach of the Mississippi River Levee located in Iberville Parish, named the St. Gabriel Levee, is desperately in need of enlargement and slope pavement construction. During the 1973 flood, a narrow crown, potato ridge addition was hastily built on top of the old existing levee to prevent overtopping. No other improvements have been made since 1973. In St. James Parish downstream from the Sunshine Bridge the levee was damaged by overbank flows resulting in loss of the riverside levee toe about twenty feet wide. Damaged in 1973, needed repairs have not yet been accomplished. Enlargement of the River Levee in the City of Baton Rouge is needed to reach the full project section. Additional levee enlargements and slope paving are required in five of six Parishes of the Levee District. The Board of Commissioners, Pontchartrain Levee District, urges appropriation of at least $24,400,000 for levee construction in fiscal year 1990. This same amount is carried in the Budget.

Channel Improvement: (Amount Budgeted: $95,200,000)

(Amount Recommended: $95,200,000)

Main line levees must be protected from caving banks throughout the lower river reaches where extremely narrow battures are the last line of defense against levee crevasses and failures. There simply is no place left for levee setbacks in the Pontchartrain Levee District. The only proven remedy is to stabilize these continually eroding banks with revetment construction.

We are pleased that the budget level is not declining and should be greater to offset increased costs. This level of spending actually represents a cutback. Revetment work in Louisiana below Old River is only about sixty percent complete. Postponement of critical locations will result in higher costs and could cause levee setbacks. The Pontchartrain Levee District, Board of Commissioners, urges Congress to appropriate $95,200,000 for fiscal year 1990, which is the budgeted amount.

Lake Pontchartrain Hurricane Protection Project

The Pontchartrain Levee District is the local assuring agency for that portion of the project in St. Charles Parish. Full cooperation is being given to the Corps of Engineers. Currently, the Levee District is in process to obtain rights-of-way for construction contracts in 1990.

The Board of Commissioners, Pontchartrain Levee District, recommends Congress to appropriate adequate funding to advance the project on an orderly basis.

CONCLUSION

The Board of Commissioners, Pontchartrain Levee District, compliments the Subcommittees on Energy and Water Development for the keen understanding of real needs for the HR&T Flood Control Project and the efficient, alert actions taken

to appropriate funds for its many complex requirements. Special commendations are extended to distinguished Louisiana Members of those Committees, Congresswoman Lindy Boggs and Senator Bennett Johnston. We endorse recommendations presented by the Association of Levee Boards of Louisiana, Louisiana Department of Transportation and Development, Lower Mississippi Valley Flood Control Association, Red River Valley Association and Ouachita River Valley Association.

STATEMENT OF JAMES E. WANAMAKER, CHIEF ENGINEER, BOARD OF MISSISSIPPI LEVEE COMMISSIONERS

I am James E. Wanamaker, Chief Engineer, Board of Mississippi Levee Commissioners, Greenville, Mississippi, and I have the privilege of presenting this statement on behalf of that Board and the citizens of this levee district comprising the counties of Bolivar, Washington, Issaquena, Humphreys and Warren in the lower Yazoo Basin in Mississippi.

As members of the Lower Mississippi Valley Flood Control Association, we support the request for Fiscal Year 1990 appropriations in the amount of $337,000,000 to the Mississippi River and Tributaries Project. We strongly support the request for the Yazoo Basin Project in the amount of $37,500,000. The amount recommended will allow most of the items of work to progress at a reasonable and orderly rate, with the exception of the Yazoo Backwater Pumping Plant.

The continued funding at a reasonable rate for the Upper Yazoo Projects and Main Stem and Tributaries Projects is critical to reduce the suffering and damages to the residents of the Upper Delta region of the Yazoo Basin.

The Big Sunflower River Project which, at the present time involves only Steele Bayou and Black Bayou, has been recommended for an appropriation of $5,100,000. This will allow for continued work on the mitigation project at Swan Lake and continuation of the project to reduce the flooding in the Greenville area.

As stated earlier, the most critical project to the area is to eliminate the suffering and damages that the residents of the Yazoo Backwater area have been plagued with for years. The Yazoo Backwater Project was authorized by Congress when they enacted the Flood Control Act of August 15, 1941 and included levees, flood gates and a pumping plant. For years, work on this project was non-existent as work was completed on the west bank improvements and upstream from this area with the continued promise to the residents of this area that relief was coming. The residents of the Backwater area of the Yazoo Basin were continually sacrificed for the protection of these other areas. After the 1973 flood in which the Backwater area of the Yazoo Basin remained flooded for up to three months and many of these people had to live with friends and relatives, the Backwater levees and flood gates were expedited, but the critical item needed to remove these flood waters still remains incomplete. The time has now come to provide these people the protection promised and anticipated since 1941.

The status of this project today consists of a completed levee, the flood gates at Steele Bayou and Little Sunflower River have been completed, and the Pumping Plant inlet and outlet channels and cofferdams started March 25, 1986 have been completed. This item was advertised as a contract for "Flood Control, Mississippi River and Tributaries, Yazoo River Basin, Issaquena County, Mississippi, Yazoo Backwater Project, Yazoo Backwater Pumping Plant, Channel Work", and served no

use whatsoever to any aspect of the project other than the Yazoo Backwater Pumping Plant. There can be no justification by anyone for this contract not being considered the initial work on the Pumping Plant.

Even though construction of this project was started in March, 1986, it has been cited as a separable item and ruled subject to cost sharing. There is no way the economy of this region can afford the enormous cost required to construct and operate this project.

In last year's appropriation bill, the Committee directed the Corps of Engineers to spend $4,000,000 on this project without cost sharing. To this date, the Corps of Engineers is insisting on having a cost sharing agreement before letting a contract for this project, while the residents of this area are again suffering the consequence of more broken promises. You are the last remaining hope for these people in their effort to be protected from the continued suffering resulting from the protection of others.

YAZOO BASIN PROJECT

STATEMENTS OF:

JOHN SHARP HOWIE, PRESIDENT, DELTA COUNCIL

BILL BURNLEY, MAYOR, CITY OF GREENVILLE

MELBA PARKER, RESIDENT, LOWER YAZOO BASIN

ACCOMPANIED BY:

CLAYTON HENDERSON, STATE REPRESENTATIVE, TUNICA COUNTY, MI

D.E. COTTON, MAYOR, TCHULA, MI

Senator JOHNSTON. Next, we have John Howie, president of the Delta Council, also on the Yazoo and Mississippi River basin projects.

Ladies and gentlemen, we have fallen about 35 minutes behind. The schedule calls for 5 minutes for this group. I hope you can get this within 5 minutes.

Mr. Howie.

Mr. HOWIE. Mr. Chairman, my name is John Sharp Howie of Yazoo County, MI, and I currently serve as president of Delta Council, a privately supported organization of agricultural and business leaders from the Yazoo Mississippi delta basin.

PREPARED STATEMENTS FOR THE RECORD

In the interest of time we will submit our witnesses' written testimony and request that you allow Mayor Burnley and Mrs. Melba Parker to offer very brief oral testimony.

Mr. Chairman, I would like to introduce our four witnesses: Mayor Bill Burnley of Greenville, MI; State Representative Clayton Henderson of Tunica County; Mrs. Melba Parker of the Eagle Lake community; and Mayor D.E. Cotton of Tchula, MI.

Mayor Burnley.

[The statements follow:]

STATEMENT OF JOHN SHARP HOWIE

Mr. Chairman and members of the committee, my name is John Sharp Howie and I currently serve as President of Delta Council, an area-wide organization of business and agricultural leaders in Northwest Mississippi. Delta Council was founded in 1935 with one of its principal aims focused on the need for drainage improvements and flood protection in the Yazoo Basin. Today, we are much closer to our objective than we were in 1935, but there are large segments of our region that continue to anxiously await the completion of the Yazoo Basin flood control projects that have been consistently given the support of this committee.

Due to flooding events which have occurred since the beginning of 1989 in our region, the two Levee Boards that serve our area and Delta Council have asked four local leaders from our region to appear before you today in order to emphasize the very critical need for the projects in our area to be completed in a timely manner. In the interest of time Mr. Chairman, I will introduce all four of our guests from the Yazoo Basin and with your permission, I will allow them to proceed with their very brief statements.

Mayor Bill Burnley is the Mayor of the largest urban area in our entire region, the City of Greenville, Mississippi, with a population of approximately 50,000 people. State Representative Clayton Henderson is from Tunica County in the Northern most part of our drainage basin, where hundreds of rural families suffer from a lack of adequate drainage. Mrs. Melba Parker is a longtime Delta resident from the backwater area located in the Southern most part of our basin which is heavily influenced by high water stages on the Mississippi River. And Mayor D. E. Cotton serves as the Mayor of Tchula, Mississippi, located on the Yazoo River, a part of the critically important Upper Yazoo Project designed to relieve flooding in more than 20 communities and one million acres of land in the North Delta area. Mr. Chairman, I present Mayor W. C. "Bill" Burnley and ask that other panelists proceed with their very brief statements before the committee.

(Mayor Burnley, Clayton Henderson, Melba Parker, and then Mayor Cotton will give their testimonies and then you will conclude with a final statement.)

Mr. Chairman, we appreciate the committee's continued support of our projects in the Yazoo Basin that are coordinated between our two Levee Boards and the United States Army Corps of Engineers. We will be happy to respond to any questions that the committee might have regarding our testimony.

(I will be sitting with you to respond to any questions that might be asked by various committee members. If no questions are asked, you will express your thanks and ask the other panelists to join you in getting up so that the next witnesses may be seated.)

STATEMENT OF D.E. COTTON

As the final testimony on the Yazoo Basin Projects, which this committee has faithfully and loyally supported for many years, and as Mayor of a small rural community located on the Yazoo River, I want to express my gratitude for the help you have given us.

My statement will be very brief but I must first let you know that of all of the improvements that are so critical to our area such as improved housing, better health care, and better educational opportunities for our people, the most threatening handicap to improving our overall standard of living is the constant risk which faces us with regard to flooding and a lack of drainage. We simply cannot develop as an area if work is not accelerated on the completion of the Yazoo Basin Projects.

Ladies and Gentlemen of the committee, during the past year, I have had the unique opportunity to study almost every aspect of the Yazoo Basin Projects --- the environmental considerations, the beneficial impacts on urban residences, the positive effects on our agricultural industry which is the foundation of the economy of our rural communities, and of greatest significance, I have

become exposed to hundreds of personal testimonies from individuals like Mrs. Parker, Mr. Henderson, and Mayor Burnley who are tying their hopes for a better future to the completion of the Yazoo Basin Projects. I personally visited Tallahatchie and Quitman Counties in the North Delta during the floods of January and February, and I took off one Saturday to spend part of a day with Mrs. Parker in the backwater area to personally evaluate the problems that this area of the Delta has experienced so frequently due to backwater flooding. Also, you may be interested to note that Mr. Henderson is the operator of a funeral home in the North Delta and he has actually buried small children from the North Delta area who were victims of encephalitis in recent years, due to events described by our State Health Department as "flooding conditions that are conducive to the breeding of disease-carrying mosquito populations."

The general public in this nation would probably be shocked to learn that in the most civilized nation of the world, there is a region in this country which is periodically plagued with raw sewage backing up through toilets in residential dwellings; with the contamination of domestic drinking water supplies; with the interruption of public services such as school bus routes and Headstart Programs being cancelled --- all of these types of conditions and circumstances occur in our region when we experience flooding.

Mr. Chairman and members of the committee, I would conclude by stating that Mayor Burnley's Steele Bayou Project which serves Greenville, the Upper Yazoo Project which is the only hope for flood relief through an area that stretches from my home to Representative Henderson's home, and most certainly the completion of the Yazoo Backwater Project in Mrs. Parker's area were conceived as a group of projects that will function as a system to reduce flooding throughout the Yazoo Basin. All of these projects must be completed or the benefits of each individual project is somewhat diminished. We ask for your continued emphasis to be focused on encouraging the U.S. Army Corps of Engineers to accelerate these projects. We respectfully ask that you carefully

review the circumstances surrounding the claims made by the Department of Army and OMB relative to the applicability of cost-sharing to the Yazoo Backwater Pumps. Our documented information reflects a very clear discrepancy in the treatment which the pump project is receiving as it relates to the applicability of cost-sharing.

Thank you for your support of these projects.

STATEMENT OF CLAYTON HENDERSON

Mr. Chairman and members of the committee, I am a State Representative and local businessman from Tunica County, Mississippi. Although unfavorable attention was focused on our county when all of the major national television networks and the national newsprint media visited our county to highlight the desperate conditions of our substandard housing located on one of our main drainage outlets, known as Sugar Ditch, we have experienced tremendous improvements through the relocation and construction of better housing for the residents of this area in recent years. Although we have registered significant gains in our development in recent years, I am here to report to you today that until we eliminate the inadequate drainage problems of our rural county, a large percentage of the improved housing and health-related improvements will be limited in their total benefit to the area.

During January and February of this year, we experienced major weather events which caused flooding conditions in the Eastern portion of Tunica County. These floods caused domestic sewage problems, the risk of contamination of our drinking water, and even the evacuation of some of our rural residents. The Upper Yazoo Project, designed to reduce flood stages in my county by approximately three feet, will virtually eliminate the threat of urban and rural residential flooding or damages to residences in our region. Additionally, although unemployment in our county is much higher than the national average, we continue to rely heavily on agriculture as our major employer. If we are unable to reverse the worsening condition of inadequate drainage in our main

channels that protect agricultural land in Tunica and adjacent counties in the North Delta area, the high risk associated with frequent flooding will certainly have an impact on the employment provided by farming operations. The land in our area is highly-productive and the farming operations which provide employment for the people of our area also serve to generate the lion's share of the economic activity which keeps our local stores and businesses viable and operating.

I have noticed during my lifetime that each year the flooding gets worse after a heavy rain over our area. This is due to the fact that our major drainage outlets are silting in and won't carry the water off our typically-flat Delta land as fast as they did in previous years. The Upper Yazoo Project will deepen and widen the Coldwater-Tallahatchie-Yazoo River system so that our land will be more productive on an annual basis, our people will have a more secure future with their chief employment being agriculture, and of greatest importance, our homes and property will be protected from sanitation, health, and economic problems caused by this flooding.

I would conclude by simply stating that we need your continued support of these Yazoo Basin Projects and I specifically appeal to you to suggest that the Army Corps of Engineers do everything in their power to speed up this process in the Yazoo Basin.

STATEMENT OF BILL BURNLEY, MAYOR, GREENVILLE, MI

Mr. BURNLEY. Thank you so much, sir. It is a pleasure to appear before this committee. I am not handy at reading statements. I would like to speak to you very briefly, and I am going to speak fast and from the soul.

My city is approximately 50,000 metro population. It is nestled in the nook of the Mississippi River, and that area is not too unlike the Netherlands. It has been reclaimed. It is reclaimed land from flood stages.

We are drained solely by a manmade canal known as No. 9 Main Canal. That is the only drainage that our city has. When it reaches reservoir capacity, as it often does in flash floods or lengthy rains, our storm sewer stops and filtrates into our sanitary sewer causing a health hazard.

I have watched as you have patiently listened to all this testimony, and I appreciate your position and your patience in the way

you hear everybody's testimony. We have a very serious problem here with our drainage stops. Now then, it rises and falls exactly as the reservoir capacity of No. 9 Ditch rises and falls. This lower Yazoo project which the U.S. Corps of Engineers has now in progress answers that problem. It widens this ditch, it gives it depth, and it also gives it needed reservoir capacity.

We ask you, sir, to see that the project gives us the proper drainage for health purposes.

Thank you very much.

Ms. PARKER.

[The statement follows:]

STATEMENT OF MAYOR W.C. "BILL" BURNLEY

Mr. Chairman, our community of Greenville, Mississippi and our county pours thousands of dollars each year into efforts to bring employment opportunities and a higher standard of living to the citizens of the area we serve. While most communities of 50,000 population in this country are utilizing their resources for recreational assets to enhance their attractiveness for future business investments by industrial and commercial businesses, or to develop cultural amenities, our community is plagued with fundamental weaknesses such as poor storm drainage, deficiencies in our sanitary sewage treatment facility, and the potential contamination of our domestic drinking water supply due to the perennial threat of flooding conditions. While most communities of similar size in this country are focusing the majority of their resource base on public education, improved health care services, and other services that are assets for their communities, we are forced to divert a portion of our energies and financial resources to flaws in our community profile which are caused by reports from our State Health Department that the threat of encephalitis cannot be ignored, or that we cannot offer flood insurance to some of our residents, or that local taxes must be increased to repair our sanitary sewer system—all due to our risk of flooding. I bring this message to you in an attempt to let you know just how serious the challenges are in our area, until we complete the steps outlined in the Yazoo Basin Projects to improve and maintain drainage in our region.

Most U.S. citizens do not often consider that there are populated or developed urban areas the size of my community which are threatened by a lack of fundamental services such as proper sanitary sewage treatment facilities, a clean domestic drinking water supply, and sufficient storm sewers to protect public investments in roads and bridges; however, until the Yazoo Basin Projects are completed and we obtain adequate drainage outlets for the City of Greenville, our future development is handicapped.

Thank you.

STATEMENT OF MELBA PARKER, FARMER, EAGLE LAKE, MI

Ms. PARKER. Mr. Chairman and members of the committee, my name is Melba Parker, and I am a farmer from the Yazoo backwater area located in the very southern part of the Yazoo basin only a few miles from the Mississippi River. I own a hunting club in this area, and I have lived there most of my life.

The Yazoo backwater area has historically been influenced by high water stages on the Mississippi River at Vicksburg which causes the Mississippi River to back up in our area of the south delta.

Those of us who live in the south delta sustained severe flooding in 1973, 1974, 1975, 1979, and again in 1983, but we have endured these floods and returned to our homes and our farming operations in hopes that improvements would come in the future which would allow us to avoid the frequent damage to our property and homes through the completion of this Yazoo backwater flood project.

The committee and the Congress have been very supportive of getting us relief from these flooding conditions, and as a result of

your actions backwater levees and floodgates constructed by the Corps of Engineers on the Steele Bayou and the Sunflower River have reduced the risk of Mississippi River backwater flooding caused by high water stages.

However, when the gates on Steele Bayou and the Sunflower River are closed to eliminate the encroachment of the Mississippi River into our backwater area, we have no way to evacuate the rainfall which occurs inside the Yazoo basin and eventually settles in the south delta. This water stays until the Mississippi River recedes to the point that we can open the floodgates.

In 1979 the Steele Bayou floodgate, which is only a few miles from my house, remained closed for 62 days, from March 4 to May 4, while rainfall from a 4,093 square mile area in the upper parts of the Yazoo basin settled over 348,000 acres of property and homes which lasted for a duration of 104 days.

Once the floodgate was able to be opened into receding flood stages on the Mississippi River, the interior flood waters which were trapped in our area in the south delta began to evacuate slowly, but those of us who live and try to do business in the area returned to an estimated $20.5 million damage.

The U.S. Army Corps of Engineers in the Vicksburg District designed the Yazoo backwater pumps to alleviate the desperate condition which we experience in the south delta. This committee accelerated funding for completion of the backwater levee and the floodgates following the 1973 flood, and by 1979 Congress began funding the engineering and design work for the construction of the Yazoo backwater pumps.

On March 26, 1986, construction contracts had been awarded, and work began in my area to start on the actual building of the Yazoo backwater pumps. I can assure you that the people of our area felt confidence and great hope when we saw construction underway during March and April 1986 aimed at building the inlet channel and the pumping plant and site preparations for the pumps themselves.

Unfortunately, soon after the passage of the Water Resources Act of 1986 the Office of Management and Budget and the Office of Secretary of the Army notified us that they viewed the construction of the inlet channel and site preparation for the pumps did not qualify as part of the official pump project and, therefore, the remaining construction and pumps would be subject to cost sharing.

We are in a desperate situation due to the fact that our entire Yazoo basin system was designed upon the assumption that the pumps would be constructed to alleviate the south delta flooding conditions caused by trapped interior drainage.

I would submit to this committee that while I am simply a farmer with a strong conviction that justice will eventually prevail, it is beyond my imagination that anyone could maintain a position that an inlet channel or site preparation work for the construction and operation of a pumping plant could be considered a separable element and not a part of the pump project itself.

I am not aware of any environmental impact statement that was exclusive performed on the construction of the inlet channel, and it would be most interesting if the OMB and the Department of the Army would tell us if a cost/benefit ratio exists for the inlet chan-

nel alone which serves no purpose other than specifically bringing water to the Yazoo backwater pumps.

Gentlemen of the committee, we need your help. We plead for your help and your commitment to get us the answers to these questions and subsequently to direct the Army Corps of Engineers to complete the construction of a project that they began in March 1986, the Yazoo backwater pump project.

This is a personal problem. I have a neighbor who had to move out. She had 10 people in her family. She had to live in one room in Vicksburg for 4 months because she could not get back to her home. This is a people's suffering problem, and we would appreciate anything you could do for us. Thank you very much.

Senator JOHNSTON. Thank you very much, Ms. Parker. You make a very strong case.

And thank all of you very much, for your interest and being here. We appreciate your testimony.

Next we have our good friend, Vernon Behrhorst from the Gulf Intracoastal Canal Association from Lafayette.

Dale Miller is here, too. Dale is not from Louisiana, but we will let you come anytime.

GULF INTRACOASTAL WATERWAY

STATEMENT OF VERNON BEHRHORST, PAST PRESIDENT, GULF INTRACOASTAL CANAL ASSOCIATION

ACCOMPANIED BY:

DALE MILLER, CHAIRMAN, BOARD OF THE GULF INTRACOASTAL CANAL ASSOCIATION

COL. HERBERT HAAR, JR., VICE-CHAIRMAN, BOARD OF THE GULF INTRACOASTAL CANAL ASSOCIATION

Mr. BEHRHORST. While they are coming to the table here, I would like to note——

Senator JOHNSTON. Herb Haar is here, too. I did not realize we had all our good friends here.

Mr. BEHRHORST. First of all, I told you last year when I was sitting here that this would be my last year to testify. To use the words of an unknown Louisiana politician, he said just go home and tell them I lied to you.

Senator JOHNSTON. Back by popular request.

Mr. BEHRHORST. Bob Parker, our new incoming president, was unable to be here, so he asked me to come back and present our testimony today.

With regard to Dale, there were some praise handed out about people being here before. I think Dale probably has been before this committee consecutively more than any person that I know of. He has appeared before this committee for 43 consecutive years, so he knows what is going on.

Senator JOHNSTON. That gives you seniority, Dale. We believe in seniority. With each passing year we believe in it stronger and stronger. [Laughter.]

Mr. BEHRHORST. Senator, also to have been with us was Homer Hirt, who is a vice president from Florida. Homer also retired as president of the Tri-Rivers Water Development Association, but he did not make it here.

Dale did have two statements, one which is attached to ours on the mouth of the Colorado River. Another one is on the Port of Corpus Christi. I just want to add that we concur on these projects as well.

Last year when we appeared before your committee here, we had one priority request. It was a very modest one but a very important one. That was to deal with a shoreline erosion problem near Sargent, TX, where the Gulf Intracoastal Waterway was only 500 feet away from the open gulf. Had last September Hurricane Gilbert hit at this point rather than farther south, the Gulf Intracoastal Waterway from that point to the Mexican border would have been virtually unusable.

We are here first of all to thank you for putting the money for this important study into the budget request, and we certainly appreciate that.

At that time we also supported another new request, and that was the redredging of the Pearl River. You took care of that for us, too, and again, thanks for that, Senator. Even though the preparations are not yet completed, already they are making preparations to ship coal and fertilizer on that river.

Since our last meeting, in line with the matter of Sargent Beach, a group of people, not the Corps of Engineers, went together and funded a study by the Texas Transportation Institute on the economic importance of the Gulf Intracoastal Waterway. The committee will be provided full copies of that study when it is available next week, but a summary of that study shows the economic impact of that.

Now what I think is important here is that this study was honchoed, if you will to use a Texas word, by the Texas Sea Grant College Program and the Marine Extension Service. This shows the supporting interest of another element which some people often think is antagonistic to water resources, that of the navigation project.

Mississippi River, Gulf Outlet, LA

The other important request that we made was for continuation of funding of the Mississippi River gulf outlet study, more commonly referred to as the industrial lock study. It is almost near completion, but it is very important that this study be completed as quickly as possible because:

One, not only the needs of the shallow draft towing industry which were exemplified by the low water and traffic having to go down the Tenn-Tom and then via the Intracoastal Waterway through that lock to New Orleans and then on west.

Two, the Port of New Orleans needs this study completed before they can continue with their report renovation expansion program; and

Three, the State of Louisiana needs to know what the status of this lock is going to be as soon as possible because of what Mr. Patterson said earlier regarding our concerns for the environment. What happens here needs to be known for our coastal wetlands program. The Inland Waterway User Board has given this top priority study, and we hope when we get down in a couple of years

that it will be ready to go to funding on there. Right now we need to get the studies taken care of.

You made a comment, Senator, with respect to the Red River being a part of the transportation infrastructure. I would just like to mention that we recently did a study on the Gulf Intracoastal Waterway related to other ports, and I also have done two independent studies as part of my work at LSU for the Port of Alexandria at Natchitoches where they are considering a port. Both of those ports would send a significant amount of the tonnage which they will generate on the Intracoastal Waterway. So it is an important part of our infrastructure, and we hope it is completed by the 1994 date that has been established.

Then also we have had some problems on the Tri-Rivers over there because of low water. They need adequate funding for operation and maintenance of that project. The tonnage has gone down because of that. But I would like to call this to your attention. The Tri-Rivers, the Apalachicola, Chatahoochee, and Flint Rivers are three rivers which have great potential for the shipment of wood products, which is one of our major potentials in the South in the export trade.

So when you make funding for this as well as Warrior and Tombigbee Rivers in Alabama and so forth, these other rivers which are in the same situation, keep in mind their importance to the South and our Nation in an area of export trade which is more than on the horizon. It is already with us in wood and wood products because it is a renewable resource.

I have attached to your copy a low budget visual aide, but if you would look at it. It is simply for emphasis. I took the Intracoastal Waterway off of it, and you can see we have nothing but a disjointed, disconnected bunch of waterways for the most part.

If you hold it up to the light like this, however, where the Intracoastal Waterway shows through, you can see that it is indeed a connecting link for all our waterways. I think that speaks for itself in the importance of the waterway and the connecting waterways which it represents.

I would just make one comment in closing, Senator, which will hopefully make your job easier in allocating these funds, these priorities. Our association is going to be producing a film called "Divided Waters, A Connecting Link on the Intracoastal Waterway." The purpose of this is to show, one, the economic impact, the importance of this waterway and its connecting waterways; and two, we are looking at the environmental issues. It goes through the biggest wetlands area of the United States and the world, all the way from Florida to the Mexican border. We are dealing with these in a responsible way, such places as Aransas Pass, Sargent Beach, and the Louisiana coastal wetlands.

Again, in closing, we are all here, and collectively we thank you, Senator Johnston, Senator Cochran and other members of the committee for the support that you have given us in the past.

Thank you.

Senator JOHNSTON. Thank you, Mr. Behrhorst, for your good work. I want to encourage you to continue to work on this wetlands problem. As you well know and as you point out, the Gulf Intracoastal Waterway is at great risk from wetlands in the long run,

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and that would be a tremendous expense to have to relocate that. It would be a lot cheaper to preserve our wetlands than it would be to do that.

I also want to encourage you to continue to encourage other cities along the Red River to continue to develop their ports, particularly Natchitoches. I think you can be of great help to them. I think Alexandria is doing well with their port. Of course you have to have the port in order to get the benefits. So I know you will continue to work with them.

Finally, Pearl River will probably require some additional funding, and we intend to see that that is completed this year.

Thank you very much.

[The statement follows:]

STATEMENT OF VERNON BEHRHORST

We thank you for the opportunity to again appear before you to lend our support to the funding of water resources projects which are vital to our nation. Accompanying me are Mr. Dale Miller, Chairman of the Board of the Gulf Intracoastal Canal Association, Colonel Herbert Haar, Jr., Vice-Chairman, and Mr. Homer Hirt, Jr., GICA Vice-President from Florida. Mr. R.H. "Bob" Parker, Jr., GICA President, is unable to be here and has asked us to extend his thanks and best wishes and assure you of his concurrance in this statement.

Last year, our priority request was the funding of a reconnaissance study of the severe shoreline erosion which is gradually gnawing away the narrow strip of land separating the Gulf of Mexico and the GIWW in the vicinity of Sargent, Texas. You understood the urgency of this situation, heeded our plea and added $100,000 to the appropriations for water resources to initiate this study. We thank you for your prompt action. The Corps of Engineers initiated this reconnaissance study in November 1988 and is developing options for dealing with this critical erosion problem. We urge adequate funding to complete the reconnaissance study and initiate the phase II study.

Last September hurricane Gilbert, the strongest ever to enter the Gulf, veered south, missing the Texas coast. Had it made landfall north of Corpus Christi, this narrow strip of land protecting the GIWW from the ravaging waves of the Gulf would be gone today, and the GIWW between this point and Brownsville would have been rendered virtually useless. One shipper reported that his transportation bill would escalate by $4 million per year should this occur. This $4 million would be multiplied many times. We must not let this happen.

Also, since last year, towing companies, shippers, ports and concerned citizens contributed funds for the Texas Transportation Institute to conduct an economic impact study of the GIWW on Texas. It clearly shows that disruption of traffic on the GIWW would have catastrophic consequences for the economy of Texas, and our country as well. Attached is a preliminary copy of the executive summary of this study which vividly displays the GIWW's economic importance.

We want this subcommittee to know that credit for this revealing study goes to the Marine Extension Service of the Texas Sea Grant College Program. More specifically, we wish to single out the Matagorda County Marine Extension Agent for recognition. Their participation demonstrates a great concern for maintaining the vitality of the GIWW beyond the concern of industrial shippers and towing companies. With ever-increasing attention being given to preserving and enhancing our coastal wetlands, GICA welcomes their leadership because of their professional understanding of the environmental issues involved.

The Corps of Engineers is nearing the end of its study of improvements - channel enlargement and erosion control - on the GIWW between New Orleans and Houston. A request for input into scoping of the environmental impact statement went out recently. We urge funding for completion of this important study consistant with the Corps of Engineers capability.

Likewise, we urge funding to continue the Mississippi River Gulf Outlet (Industrial Canal Lock) study. During last year's low water on the Mississippi, this lock, in addition to present overtaxing traffic, handled traffic diverted through the Tennessee-Tombigbee Waterway. The needs of the shallow-draft towing industries and their shippers must be accomodated at this lock with a new lock and/or rehabilitation of the existing one. Furthermore, completion of this study is essential to the Port of New Orleans in its port renovation and expansion program which it is beginning, and to the State of Louisiana for development of its coastal wetlands management plan. The Inland Waterway Users Board has given completion of this study high priority. The situation at this lock must be resolved soon.

Of the many funding requests for projects tributary to the GIWW which GICA supports, we wish to mention one that has a direct impact on the GIWW. This is the Mouth of the Colorado River project in Texas. The GIWW crosses the Colorado River through two locks near the River's mouth. As Dale Miller, our Board Chairman, is more familiar with this project, he will submit a brief supporting statement at the close of my presentation.

Today, operation and maintenance funds in the aggregate are greater than construction funds. This is true for the GIWW. We urge approval of the request for $31,250,000 operation and maintenance funds for the GIWW between St. Marks, Florida and our border with Mexico.

Recently, I delivered a paper, "The Interface of Louisiana's Ports with the GIWW," to the Ports Association of Louisiana annual ports conference. My paper focused on Louisiana ports. However, a paper on ports in any other Gulf Coast state would yield similar conclusions; that is, ports, both inland and coastal, are highly dependent upon the GIWW for the shipment and receipt of cargos. In Louisiana, twenty-one of our twenty-five ports, deep and shallow draft, rely heavily upon the GIWW. This will be equally true for new ports opening in the near future. Studies on new public ports at Alexandria and Natchitoches on the Red River conclude that cargos of fertilizer, petroleum and wood products that will move through these ports when they begin operation in the near future will make part of their journey on the GIWW. The Red River is an integral part of the waterway network connected by the GIWW and should be adequately funded so that it will be completed to Shreveport by the 1994 target date.

Last year we supported funding for the redredging of the Pearl River to Bogalusa, Louisiana. We are most grateful to you for heeding our request and adding funds for this project. Most of the dredging has been completed. We ask that sufficient funds be made available to complete this project. Although not complete, coal and fertilizer soon will be shipped on the Pearl on a regular basis. The existence of the GIWW makes this possible.

Studies show that the Pearl River can become an important waterway for the shipment of wood and wood products which are becoming increasingly important components of our export trade, a segment of our economy which needs bolstering. Of utmost importance is the South's warm, humid climate which gives us the capability to produce an abundance of soft and hardwoods on a sustained-yield basis for both domestic markets and export to other countries, many of which are becoming increasingly dependent upon imports as their native forests dwindle and consumption increases.

I dwell on this to emphasize the need for preparing for the furture by insuring that we have waterways which provide adequate, dependable, low-cost barge transportation to ship these products of our forests to coastal ports at competitive rates. Waterways for the shipping of forests products, beside the Pearl River include the Tennessee-Tombigbee Waterway and the Warrior, Alabama, Apalachicola, Chattahoochee and Flint Rivers.

Adequate, sustained funding of operations, maintenance and improvements, such as the Oliver Lock and Dam which is now under construction, is essential for year-round, dependable barge transportation in which transportation customers can have confidence.

Two weeks ago, I participated in the annual meeting of the Tri Rivers Waterways Development Association in Tallahassee where reliability of schedules, limitation of tow sizes and light loading, because of the prolonged drought, were the major topics of discussion. Drought-induced delays and light-loads have been a greater problem on the Tri Rivers system than any other in the South. Tonnage has declined significantly as a result. These problems are being diligently addressed. GICA urges you to give this consideration when allocating funds for the Tri Rivers system this year and in subsequent years. These rivers have a great potential for hauling the wood for export which will be so important to us.

Why is GICA here today testifying on behalf of these waterways? We do this because they are all parts of a unified water transportation network connected by the GIWW. We have an obligation to insure their continuing integrity. Attached to this testimony is a map showing most of the waterways of the Eastern United States. As indicated at the bottom of the map, the GIWW has been purposely deleted from the map, leaving the waterways along the Gulf Coast dangling, isolated and disconnected. Hold the map up to a light and the GIWW appears, connecting these waterways into a unified network. We provide this elementary cartographic exercise as evidence which strongly

supports the continuation of adequate funding for this waterway network of which the GIWW is a key element, or the "Connecting Link" as we call it in the title of a video presentation on the GIWW which GICA, with support of other co-sponsors, is producing.

The purpose of this video presentation is to make the public, old and young, and nationwide aware of the importance of the GIWW and connecting waterways to our nation's economy. While doing this we will show the concerted efforts that are being undertaken to keep the GIWW compatable with the sensitive environment of the vast coastal wetlands through which the GIWW passes.

We believe that through increasing public awareness, our citizens will better understand and support allocating of scarce financial resources to waterways. Production of our video, "Divided Waters - The Connecting Link," we believe, will be helpful to you and thereby repay, in part, our debt to all of you for your continuing and diligent support of GICA's efforts. By this time next year we hope to have an opportunity to show it to you.

We thank you.

EXECUTIVE SUMMARY

ECONOMIC IMPACT OF THE GULF INTRACOASTAL WATERWAY SYSTEM IN TEXAS IN 1986, PREPARED FOR THE TEXAS SEA GRANT COLLEGE PROGRAM FEBRUARY 1989, PREPARED BY HILLARY GARRETT AND DOCK BURKE THE TEXAS TRANSPORTATION INSTITUTE, TEXAS A&M UNIVERSITY

The Gulf Intracoastal Waterway System in Texas carried almost 73 million tons of commodities valued at over $21 billion in 1986. The total revenue directly attributable to the GIWW was conservatively estimated at $3.1 billion in this same year. Port revenues accounted for 47% of this total; the payrolls and revenues of the water transportation industries comprised 52%; the remainder was derived from maintenance expenditures on the waterway by the U.S. Army Corps of Engineers.

About 110,000 jobs in the State of Texas are either directly or indirectly related to the shipment of goods through the Port of Houston alone. In 1986, 31% of all goods which moved through the Port of Houston travelled via the inland waterway system. Almost 20,000 Texans were employed directly by the water transportation industries. Coastal mining and manufacturing firms, which are heavily dependent on low-cost water transportation, had almost 127,000 employees on their payrolls in 1986. Sport and commercial fishing, and recreational activities created over 48,000 jobs state-wide; contributing up to $675 million in State personal income in 1986.

The value of payrolls and expenditures of the chemical, petroleum refining, oil and gas extraction, and non-metallic mineral industries located in the coastal region has an important economic impact on the State. These four industries combined produced an impact of almost $37 billion in 1986, not including over $400 million collected in tax revenues.

Preserving these economic benefits to Texas and the nation should be one of the State's highest priorities. Continued maintenance and support of the GIWW in Texas are necessary to assure that the waterway remains a viable, productive mode of low-cost transportation for the many essential goods imported to and exported from Texas. Regrettably, uncontrollable forces of nature stand poised to diminish the economic capacity of the waterway.

These forces take the seemingly benign form of softly breaking waves and gradual coastal subsidence, which combine to create severe erosion problems along the coastal region, seriously jeopardizing the future productivity of the GIWW. Action should be taken immediately to ameliorate these threatening conditions. A lack of sites to receive dredged materials also poses a dilemma.

Funding for waterway improvements has not been able to keep pace with needs in past years. Texans should be made aware that should the waterway become inoperable, it would have deleterious effects on the future economic prosperity of the entire State of Texas, not just the coastal region.

Water transportation will continue to play a vital role in the State's future economic well-being. How that role is defined and expanded is a matter of concern to all Texans. It is hoped that this report will enlighten those who have previously underestimated its significance.

STATEMENT OF DALE MILLER

I am Dale Miller, Chairman of the Board of the Gulf Intracoastal Canal Association. The statement of our Association is being otherwise presented, but I have asked the privilege of inserting into the record at this point a brief statement of the Port of Bay City Authority in Texas, in behalf of its navigation project, the Mouth of the Colorado River. I am doing so to obviate the necessity

of their witnesses coming to Washington and consuming the time of the Subcommittee, when the merits of this project speak eloquently for themselves.

I suggest that the Subcommittee note these pertinent facts: It is a continuing project -- the appropriation that is sought is contained in the Budget recommendations, and conforms to the capability of the Engineers -- the conditions of local cooperation have been accepted -- and the project is non-controversial, being strongly supported by both developers and environmentalists.

Inasmuch as the project conforms to all such criteria, I respectfully request the Subcommittee to accord it favorable consideration.

STATEMENT OF THE PORT OF BAY CITY AUTHORITY

To save the Subcommittee's valuable time, we have requested the Chairman or President of the Gulf Intracoastal Canal Association to present this statement.

The Mouth of the Colorado River project on the Texas Gulf Coast was authorized in Sec. 101 of the Rivers & Harbors Act of 1963. The years of waiting and planning were many, but actual construction was begun in 1983.

The U.S. Army Corps of Engineers has requested $6,200,000 for continued construction of the project, and this figure is contained in the Administration's Budget recommendations. We urge the Congress to appropriate the requested funds, so that the entire project can be expedited to completion. It is an important part of the Gulf Intracoastal Waterway system.

Senator Lloyd Bentsen and Representative Greg Laughlin are fully familiar with the project and are working diligently to bring it to completion.

STATEMENT OF DON DUGGAN, CHAIRMAN OF THE BOARD OF DIRECTORS, RED RIVER VALLEY ASSOCIATION

Senator JOHNSTON. Next, for the piece de resistance is the Red River Valley Association with General Ed Harris, Don Duggan and a cast of outstanding characters.

Mr. DUGGAN. Mr. Chairman and Senator Cochran, we appreciate this opportunity. We know it is like preaching to the choir. This is my eighth consecutive time to appear before you. I was here many times before I became chairman.

I am Don Duggan, chairman of the board of Red River Valley Association. We are a 64-year-old organization, and we represent citizens from all walks of life from the States of Arkansas, Louisiana, Oklahoma, and Texas. We are all vitally concerned with the continued development of the water and land resources of the Red River basin.

You will be addressed in our presentation here today by my colleagues from each of the four States that are represented by our association, and they will deal with specific needs within their own States. Before they begin, I would like to briefly comment on a few concerns for the future physical and economic well-being of the millions of citizens residing in this four-State Red River basin area.

Now since 1983, these four States have been severely depressed by the collapse of the oil and gas industry and its continuing impact throughout our economy. Now the national newspapers

report an improving economy in other areas and nationwide unemployment is down to, I believe, a 9-year low; but not so in our area.

Louisiana has hovered around the 12-percent mark for a long time now, and I understand our neighboring states are experiencing the same. At least eight banks have failed in the Shreveport area in recent months, and we are just in hard times. The paper this past Sunday reported two deaths in the little town of Morgansport North of people who were trying to clip electric wire to sell. We are in desperate, destitute conditions in our area, and I think you are aware of that.

Now I have said all this as background so you will understand why it appears to many of us that we have gotten cut out of the recovery the rest of the Nation is experiencing. What is making the rest of the Nation prosper is what is killing us, and that is cheap energy. That accounts for our condition.

Now while all the benefits were good to us, we more than paid our dues in windfall profits taxes and we banked other areas that were depressed. If my memory is correct, we sent you some $70 billion for your coffers from these four States involved in windfall profits taxes. Now we need help, and we need it desperately, and we seek your understanding.

We consider the potential and progress of these projects on the Red River critical to the recovery of our future.

We want to thank you. We know that had it not been for you and your efforts that we would not be where we are today. We also are thankful to you for the fact that there have been no lapses in the progress of this project, not so far as I know, in 4 or 5 years. I believe that we have done everything that we could possibly do, and we thank you and are grateful to you for that.

We cannot, however, receive full benefits of the waterway until it is completed, and we still need your support for the simultaneous construction and completion of the remaining two locks and dams by the mid 1990's.

BANK EROSION PROBLEMS

Another problem which we continue to have is we lose thousands and thousands of acres of our valuable farmland due to bank erosion. That is a real problem with us, and it continues to pose a threat to levees, bridges, and utility lines. Clean water is increasingly becoming important. Everybody along the river is looking for sources for our future water supplies.

There are many other benefits of the Red River, and I suppose we will not try to name all of them for you today. You are aware of them. Again this year we come to you and humbly and sincerely ask for your understanding and help to fund these needs and provide these jobs. We need jobs desperately. To complete these projects will give us the opportunity to diversify from oil and gas to a broader based economic resurgence.

Our first witness today is Mr. William C. (Bill) Chapman, a rancher and an attorney from Ardmore, OK.

Bill.

[The statement follows:]

STATEMENT OF DON DUGGAN

Mr. Chairman and members of the committee. I am Don Duggan, Chairman of the Board of the Red River Valley Association, a 64 year old organization representing citizens from all walks of life in the four states comprising Arkansas, Louisiana, Oklahoma and Texas, who are vitally concerned with the continued development of the water and land resources of the Red River Basin.

You will be addressed during our presentation today by my colleagues from each of the four states that are represented by our association regarding specific needs within their own state. Before they begin, I would like to briefly comment on a few concerns for the future physical and economic well-being of the millions of citizens residing in this four state Red River Basin area.

Since 1983 these four states have been severely depressed by the collapse of the Oil & Gas industry and its continuing impact throughout our economy. National newspapers report an improving economy in other areas and nationwide unemployment down to a nine year low. Yet, Louisiana has hovered around the 12% mark for several years with some areas in East Texas and Central Louisiana reaching 16%. While cheaper energy is one of the main factors in helping the economic growth in other parts of the country, the subsidy of foreign oil and cheaper prices severely hamper the recovery of our area. I say that as background so you will understand why it appears to many of us that we have gotten cut out of the recovery the rest of the nation is experiencing. While oil benefits were good to us, we more than paid our dues in windfall profits taxes and banked other areas that were depressed. Now we are the ones who need help, and we seek your understanding. We consider the potential and progress of these projects on the Red River critical to our recovery and future.

We want to thank you for the tremendous support you members of this committee have given Red River Navigation to bring it this far. But since full benefits of the waterway cannot begin until completion, we still need your support for the simultaneous construction and completion of the remaining two locks & dams by the mid-1990's.

We continue to lose thousands of acres of valuable land due to bank erosion, resulting not only in loss of non-replaceable farm land but also posing a threat to levees, bridges and utility lines.

Clean water is increasingly critical to our future. Also, other benefits of the Red River, such as stimulation of tourism through recreational development, are strong factors in the economic outlook of our area.

Again this year we are coming to you to humbly and sincerely ask for your understanding and help to fund these needs, provide these jobs, and complete these projects that will give us the opportunity to diversify from oil and gas to a broader based economic resurgence.

RED RIVER VALLEY ASSOCIATION
SUMMARY OF PROJECTS AND FUNDING REQUESTED FY90

PROJECT	RRVA REQUEST
RED RIVER NAVIGATION	
Mississippi to Shreveport Reach..... continue construction LD3 and pools, initiate LD4 and LD5	97,000,000
Shreveport, LA to Daingerfield, TX Reach..... preconstruction planning	75,000
Shreveport, LA to Index, AR Reach..... preconstruction planning	50,000
RED RIVER BASIN CHLORIDE CONTROL	
Initiate Construction Areas VII and X.....	5,000,000
RED RIVER BASIN COMPREHENSIVE STUDY.....	FCC
RED RIVER STABILIZATION BELOW DENISON DAM	
Initiate Construction Dutch John Bottom Revetment (Louisiana).....	3,000,000
Reshaping Levees (Arkansas).....	1,000,000
EMERGENCY BANK PROTECTION	
Initiate Caving Prevention Project.....	8,000,000
BANK STABILIZATION (Index, AR to Denison, TX)	
Preconstruction Planning.....	500,000
ALOHA-RIGOLETTE PROJECT (Louisiana)	
Preconstruction Engineering - Flood Protection and Drainage.....	FCC
Initiate Construction.....	7,600,000
MCGEE CREEK PROJECT (Oklahoma)	
Construction Continuation to Completion.....	2,700,000

BROKEN BOW REREGULATION DAM (Oklahoma)
Hydropower Project

Initiate Construction.....FCC

COOPER LAKE AND CHANNELS (Texas)
Continue Construction on Multi-Purpose Project.....31,000,000

MCGRATH CREEK PROJECT (Texas)
Engineering and Design.....300,000

FCC: Full Corps Capability

ADDITIONALLY:

FUNDING OF CORPS CAPABILITY for Completion of studies, Review and necessary Repair in following areas:

ATCHAFALAYA BASIN
RED RIVER BACKWATER AREA
LOWER RED RIVER SOUTH BANK LEVEE
EASTERN RAPIDES-SOUTH CENTRAL AVOYELLES DRAINAGE DISTRICT
LOWER RED RIVER LEVEES
BAYOU COCODRIE AND TRIBUTARIES
BAYOU RAPIDES PUMPING STATION
RED RIVER ABOVE DENISON-CROWELL SITE

RED RIVER VALLEY ASSOCIATION
PLATFORM, RESOLUTIONS, AND PROGRAM OF WORK

INTRODUCTION

The Red River Valley Association is a voluntary group of citizens banded together to advance the economic development and future well-being of the citizens of the four state Red River Basin area in Arkansas, Louisiana, Oklahoma and Texas.

For the past 64 years the Association has done notable work in the support and advancement of a program to develop the land and water resources of the Valley to the beneficial use of all the people. To this end, the Red River Valley Association offers its full support and assistance to the various Port Authorities, Chambers of Commerce, Economic Development Districts and other local governmental entities in developing the area along the Waterway.

The resolutions contained herein were adopted by the Association during its 64th Annual Meeting in Shreveport, Louisiana, on February 14-16, 1989, and represent the combined concerns of the citizens of the Red River basin area as they pertain to the goals of the Association, specifically:

...Economic and Community Development
...Flood Control
...Bank Stabilization
...A Clean Water Supply for Residential, Commercial, Industrial and Agricultural Use
...Solar and Hydroelectric Power Generation
...Navigation

The Red River Valley Association is aware of the constraints on the federal budget, and have kept those restraints in mind as the resolutions were adopted. Therefore, and because of the far-reaching regional and national benefits addressed by the various projects covered in these resolutions, we

urge the members of Congress to review the materials contained herein and give serious consideration to funding the projects at the levels requested.

Don H. Duggan, Chairman of the Board

Lynn Lowe, Vice Chairman Arkansas

Joe D. Waggonner, Jr., Vice Chairman Louisiana

William C. Chapman, Vice Chairman Oklahoma

Robert Mansell, Vice Chairman Texas

Edgar S. Harris, President

BASIN WIDE PROJECTS

RED RIVER WATERWAY PROJECT

The Rivers and Harbors Act of 1968 authorized the Red River Waterway Project featuring a navigation channel from the Mississippi River to Shreveport, Louisiana and Daingerfield, Texas; and stabilization of the banks of the Red River from the Mississippi River to Shreveport, Louisiana/ Shreveport, Louisiana to Daingerfield, Texas/ Shreveport, Louisiana to Index, Arkansas/ and vicinity of Index, Arkansas to Denison Dam, Texas. Construction under this authorization has been initiated in the Mississippi River to Shreveport, Louisiana reach.

Completion of the Red River Waterway will significantly boost the economy throughout the river basin and reduce widespread unemployment of the area. Average annual shipping on the waterway is expected to be over 12 million tons and estimated benefits are in the amount of $150 million annually. This type of progress should not be denied citizens of the Red River Basin and the nation. In order to begin realizing project benefits and minimize future project cost increases, planning, design and construction should proceed in an orderly fashion in order to achieve project completion in a reasonable period of time.

With the Red River Navigation project's Lock and Dam #1 and the John H. Overton Lock and Dam completed, the Red River Valley Association believes it an economic imperative that construction on the remaining three locks and dams continue on an established and organized schedule so that the project is completed on the Shreveport-Bossier City reach during FY 1994. Construction on Lock and Dam #3 began during FY86 and a completion contract was awarded on March 31, 1988. We call upon Congress to continue construction on Lock and Dam #3 in earnest during FY 1990, and to endorse the resolution that Locks and Dams #4 and #5 begin constuction in FY90. Jointly with the construction of the Locks and Dams we urge continued work in Pools 3, 4 and 5.

At present, the communities of Alexandria/Pineville, Natchitoches, Colfax and Shreveport/Bossier City are in the process of planning and developing public port facilities for their respective areas.

Alexandria/Pineville, in a cost-reimbursable construction contract with the Corps of Engineers, initiated construction of a port facility in 1985 and are planning for full development of their port facility. With the final 64 foot pool of John H. Overton Lock & Dam, navigation to the port facilities is a reality. The port is now in use.

The Caddo-Bossier Port Commission has already purchased 1,100 acres for a public port/industrial park complex and is planning to acquire an additional 900 acres because of the intense interest for a public port facility among existing industries in the Port Commission's service area which extends to

Dallas-Ft. Worth. (A 1981 port users survey commissioned by the Port Commission shows a total of more than 12 million tons of cargo would go through a public port facility in the Shreveport/Bossier City area from companies now existing in the Ark-La-Tex.)

Planning to ensure that public port facilities will be ready to benefit the local, state and national economy when navigation is returned to these communities has been made tremendously difficult because of the lack of a firm construction schedule for the remaining two Locks and Dams. Thousands of badly needed jobs are at stake, and therefore, the Red River Valley Association urges Congress to appropriate for FY90 $97 million, and such additional funding as may become available, along with Congressional direction for the Corps of Engineers to initiate construction of Locks and Dams 4 and 5 so their completion by FY94 will allow orderly planning and economic development to realize beneficial returns in the earliest time frame.

Additionally, the Red River Valley Association urges Congress to fund $75,000 for preconstruction planning on the waterway segment from Shreveport, Louisiana to Daingerfield, Texas; $50,000 for preconstruction planning on the segment from Shreveport, Louisiana to Index, Arkansas; and $350,000 for preconstruction planning on the segment from Index, Arkansas to Denison, Texas. Funding is required for FY90 to result in comprehensive coordinated advancement of these basinwide features. Planning on the upper reaches must continue in order to initiate construction which would complement ongoing construction in the lower reach and ultimatly provide the maximum project benefits to the people of the Red River Basin and the nation.

RED RIVER BASIN CHLORIDE CONTROL

The Red River Basin Chloride Control Project, directed toward the improvement and preservation of water quality in the States of Texas, Oklahoma, Louisiana and Arkansas, is imperative in order to realize full utilization of these surface-water supplies. Presently, more than 1,000 miles of streams in the river basin are severely contaminated by natural brines. Consequently, water of the streams are not suitable for municipal and most industrial and agricultural purposes. Large volumes of salt enter the streams from 15 natural sources, 10 of which are located in Texas. There exists an immediate need for good quality water within and to the west of the areas of natural salt pollution, as well as a long-term need downstream in the eastern part of the Red River Basin.

Passage of the 1966 and 1970 Flood Control Acts (P.L. 89-789 and P.L. 91-611) authorized construction of measures to control the natural salt pollution from Areas VI, VII, VIII, IX, X, XIII, XIV and XV in the basin, subject to the provision that construction on the project could not be started until approved by the Secretary of the Army. Initiation of construction at Area VIII on the Wichita River, prior to the required approval by the Secretary of the Army, was authorized by the 1974 Water Resources Act. Construction at Area VIII, which includes the Truscott Brine Lake, was begun in February 1977. The Bateman Pump Station, pipeline and Truscott Lake were put into operation in May of 1987. With the exception of Area VIII, construction at the remaining seven areas and two brine lakes of the Red River Chloride Control Project is awaiting approval by the Secretary.

Congress authorized construction of the entire Red River Chloride Control Project to control natural brine sources as a 100 percent federal project (P.L. 89-789 and P.L. 91-611). Subsequently, the components of the overall project were re-evaluated by the Corps of Engineers, at the request of Congress, and the results of the re-evaluation have been reported in the Corps' "Supplemental Data to Arkansas-Red Basin Chloride Control, Red River Basin Design Memorandum No. 25, General Design, Phase I-Plan Formulation", Vols. I and II, Department of the Army, Tulsa District Corps of Engineers, Oklahoma, November 1980. The re-evaluation reaffirmed both the economic and technical feasibility of this project. Subsequently, as authorized by P.L. 99-662, a panel was formed to assess the improvement in water quality downstream of Area VIII to determine its consistency with the water quality estimated in the development of project benefits.

The panel submitted its report to the Secretary of the Army and the Committee on Environmental and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives in August 1988. The panel determined the operation of the completed works in Area VIII were consistent with the project benefits projected by Design Memorandum No. 25. As a result, we strongly urge Congress request the Secretary of the Army forward the project report and his recommendation on this project to the Office of Management and Budget, and to Congress, in accordance with the provisions of the project's authorizing legislation, as amended (P.L. 99-662). Accordingly, we request the Committee appropriate $5,000,000 in FY90 to permit the immediate initiation of construction of the low flow dams and pump stations in Areas VII and X and to continue the original design of Crowell Brine Lake and the brine detention reservoir, pump stations and Salt Creek Lake in Area VI so that construction of these features can be initiated in FY91.

RED RIVER BASIN COMPREHENSIVE STUDY

The Red River Basin Comprehensive Study, authorized by P.L. 98-63, 30 July 1983, was initiated in October 1983. A reconnaissance report was submitted in March 1985 by the Tulsa District of the Corps of Engineers which primarily covered Oklahoma. Feasibility level studies are scheduled for completion in September 1988 by the Tulsa District. The Vicksburg District of the Corps of Engineers will undertake its reconnaissance studies and initiate feasibility studies upon receipt of funds. The comprehensive study will recommend measures for: flood control, development of water supply, treatment and conveyance facilities, generation of hydro-electric power, development and enhancement of the recreational potentials and enterprises of the region, and improvement of the rivers for navigation and port site development to specifically include the initiation of a study from Shreveport, Louisiana to Index, Arkansas and to all points between.

The Red River Valley Association agrees with the position Congress has taken regarding cost-sharing on this project (P.L. 98-360) and strongly supports continued funding of the study for all portions of the Red River Basin. The Red River Valley Association also requests Congress to appropriate full Corps of Engineers capability level funds for feasibility studies at 100% Federal cost as per the directive contained in the specific language in the 1985 Energy and Water Appropriations Bill (P.L. 98-866).

BANK STABILIZATION OF THE RED RIVER

RED RIVER LEVEES AND BANK STABILIZATION BELOW DENISON DAM

Red River Levees and Bank Stabilization below Denison Dam is the authorization for constructing levees, flood control structures and bank stabilization below Denison Dam. The facilities constructed under this authorization are the first lines of flood protection for the Red River Valley and its citizens. Accelerated and new caving of the river banks of Red River continue to endanger existing flood control structures and levees as well as valuable agricultural lands, highways, railroads, utilities, homes and other valuable resources and improvements within the Red River Valley. A systematic program of bank stabilization and other flood control measures can prevent these disastrous losses that are presently occurring.

Because of the planned construction of the Red River Waterway Project, a dangerous tendency has developed to de-emphasize construction of flood control and bank stabilization works under the Red River Levees and Bank Stabilization program. This tendency should be halted and reversed lest the impression be created that the program is no longer needed or has been completed. Additionally, emphasis should be given to coordination of all levee and bank stabilization work along the river with plans for future navigation. This would help insure proper alignments, thus minimizing future navigation construction costs.

The Red River Levees and Bank Stabilization below Denison Dam Project is the only comprehensive flood control program on the Red River containing authorization for construction of a variety of flood control measures, levees

and other flood control works. Some of the projects planned in the original authorization project have not been completed and these must be constructed in order for the citizens of the Red River to derive necessary flood protection.

No funds were appropriated by Congress for the Red River Levees and Bank Stabilization Below Denison Dam in FY83 and only the minimum amounts were provided in FY84, 85 and 86. Bank caving on Red River has progressed in several locations to a critical state. Railroads, major public highways, levees and other flood control works are threatened, and unless action is taken in the near future, these facilities will be destroyed, endangering lives and property of the citizens of the Red River Valley.

For example: the Caddo Parish Board of Commissioners of Louisiana describes bank caving in the Dutch John Bottom area as having increased tremendously in the last two years "creating a hook in the channel and further accelerating the caving. The COE has plans to stabilize the channel and stop the caving but has not had necessary money to do the work. This area is experiencing the worst caving of any stretch on the river between Shreveport and Texarkana." They RESOLVED "that the Secretary of the Army, acting through the Corps of Engineers, is directed to use, immediately upon enactment of this Act, $3,000,000 for the Red River Levees and Bank Stabilization Below Denison Dam Project and award a continuing contract for FY90 for construction of the Dutch John Bottom Revetment." This is to provide for flood protection, maintain channel alignment, protect wetlands and wildlife, and prevent the adverse impacts to the Dutch John Bottom Lake.

Another example of flood control work needed is levee reshaping along the main stem Red River in the state of Arkansas. Levee sections were not built to appropriate widths and sideslopes and new flowlines have been established based on up-to-date historical data. Reshaping the levees will provide additional structural strength at appropriate elevations needed to protect citizens, agricultural land and transportation systems. This is a multi-year program. The Red River Commission of Arkansas has requested $1 million for construction of levee reshaping work in Arkansas.

Therefore, it is imperative that Red River Levees and Bank Stabilization Below Denison Dam continue as authorized by Congress and that adequate funding be appropriated to accomplish the construction of this needed protection. The Red River Valley Association recommends that $4 million be appropriated for this project in FY90 for the construction of these improvements and protection, specifically $3 million for construction of bank protection at Dutch John Bottom and $1 million for reshaping of levees in Arkansas.

EMERGENCY BANK PROTECTION

Although Federal projects have been authorized for flood control and navigation, many active caving banks cannot be stabilized because they are not yet sufficiently advanced or not included in earlier authorizations. The result is continuing rampant destruction of valuable lands, threatening vital flood control facilities and endangering high-cost improvements, such as bridges, pipelines, highways, railroads, utilities, cities and towns.

It is urgent that adequate funding of the item "Emergency Bank Protection" be continued to construct bank stabilization work as early as possible in the most critical locations instead of waiting several more years and experiencing the loss of millions of dollars due to damages. Further, continued neglect of these caving banks will substantially worsen alignment of the River, making future navigation realignment and stabilization much more costly and difficult. Many present caving banks have an existing alignment that is usable for the navigation channel and should be preserved now.

In view of the critical needs for immediate bank stabilization at many locations along the river, and the great unnecessary losses to caving activity which have been suffered by the people of the Red River Valley in the past and which can be expected to continue in the absence of immediate stabilization construction, the Red River Valley Association requests that the Congress appropriates $8 million in FY90 for Red River Emergency Bank Stabilization, and in addition, to require that $6 million of such funds remain available

until expended for construction of the Red River Emergency Bank Protection, Arkansas and Louisiana projects, with the Secretary of the Army to be directed, as a minimum to award continuing contracts in FY90 for construction and completion of each of the following features of the Red River Emergency Bank Protection Project: Brown Realignment and Slay Bend Revetment, with none of those contracts to be considered fully funded, but to be contracts to be initiated with funds appropriated for FY90.

BANK STABILIZATION INDEX, ARKANSAS TO DENISON DAM

Widely fluctuating stages and high flows during the past several years have caused sharp increases in bank caving along the Red River from Index, Arkansas to Denison Dam. This accelerated bank caving has caused the loss of valuable vital improvements and non-replacable prime agricultural lands. Flood control structures and levees which protect the Valley from disastrous floods are also endangered. These disastrous losses can be stopped by a systematic program of bank stabilization. Progressive construction of such a program is absolutely essential to the safety, growth and well-being of the Red River Valley. To further delay this vitally needed protection would be short-sighted.

In view of the fact that construction of bank stabilization is so badly needed and that the states of Oklahoma, Arkansas and Texas have agreed to the authorized cost-sharing requirements, the Red River Valley Association requests that $500,000 be appropriated in FY90 to continue preconstruction planning work.

MISSISSIPPI RIVER AND TRIBUTARIES FLOOD CONTROL PROJECT

The Red River Valley Association endorses the Mississippi River and Tributaries Flood Control Project, including all of its features and components, and stresses the importance of aggressively completing all features, particularly as it relates to the Red River Basin and its improvements. Since the Red River is a major factor in the Mississippi River and Tributaries Flood Control Project, the Red River Valley Association endorses the flood control and navigation improvements of the MR&T Project and necessary appropriations for completion.

ARKANSAS PROJECTS

APPROPRIATIONS RESOLUTIONS

RED RIVER WATERWAY PROJECT, SHREVEPORT, LOUISIANA TO INDEX, ARKANSAS

Completion of the Red River Waterway Comprehensive Bank Stabilization project to Index, Arkansas will significantly boost the economy throughout the river basin and provide jobs in the area. Great economic benefit will accrue not only to that portion of the river wherein navigation is currently authorized, but also to the area between Shreveport, Louisiana and Index, Arkansas, resulting from a comprehensive bank stabilization program. This type of program should not be denied citizens of the Red River Basin and the nation.

The Red River Valley Association urges the Congress to fund the Corps of Engineers full capability for the continued planning of the reach of Red River from Shreveport, Louisiana to Index, Arkansas. Adequate funding is required to result in comprehensive coordinated advancement of these basin-wide features which will allow construction to commence as soon as possible in the reach between Shreveport and Index. Planning on this upper level must be accomplished in order that construction can be completed for the navigable portion of the channel from the Mississippi River to Shreveport on a timely basis, as this project will complement the navigation channel so that maximum basin benefits can be provided simultaneously.

RESHAPING LEVEES

The Red River Valley Association recommends Congress provide funding of $1.0 million to continue planning and construction of the reshaping of the levees on the main stem of Red River in Arkansas to conform the levees to the new flow line established by a recent study of the Corps of Engineers.

LOUISIANA PROJECTS

APPROPRIATION RESOLUTIONS

CYPRESS-BLACK BAYOU WATERSHED

Local interests and the state of Louisiana, in cooperation with the United States Department of Agriculture Soil Conservation Service, have advanced construction of this project to the point where many benefits are being realized. Features of the project include: land treatment measures, two multiple purpose reservoirs for irrigation, recreation and municipal water supply, a comprehensive recreational facility development and approximately 55 miles of channel improvement for flood prevention and agricultural water management, 11 weirs, two pumping plants and water control structures for distribution and irrigation use of water. The features of the watershed remaining to be constructed are channel improvements, weirs, pumping plants and water control structures. Through these features, the agricultural water needs of the central Bossier Parish, Louisiana area can be met during most years. Additionally, some assistance is provided in meeting municipal and industrial water needs.

The Red River Valley Association expresses its sincere appreciation for Congressional support in funding the Cypress-Black Bayou Watershed development and recommends that the financial support necessary for completion of the project be provided.

ATCHAFALAYA BASIN

The Atchafalaya Basin is a key element in the flood control plan for the Mississippi River and its Tributaries that directly involve the Red River Basin area. Flood control is the primary purpose of the Atchafalaya Basin and its capability must be maintained and improved.

The Red River Valley Association opposes any plan for use of the Atchafalaya Basin which reduces its effectiveness for flood control. However, the Association does not oppose other uses of the basin, provided they do not interfere with or prevent its use for flood control purposes.

The Association urges that the studies being made on the Atchafalaya Basin area be completed as soon as possible and construction of the necessary flood control works in the area be resumed immediately.

RED RIVER BACKWATER AREA

The 1941 Flood Control Act authorized protection of additional areas in the Red River Backwater Area, where justifiable. A review in the late 1950s concluded that additional flood protection works were justified and authorized for the Larto Lake to Jonesville area, the Sicily Island area, the Below Red River area and the Tensas-Cocodrie area.

The Larto Lake to Jonesville area and the Tensas-Cocodrie area levee system have been constructed and the Tensas-Cocodrie Pumping Station is completed. The Tensas-Cocodrie levees, however, are below grade and need to be enlarged. The Red River Valley Association requests that funds to allow continuation of this project be made available by Congress.

Advanced planning of the Below Red River Project is continuing and the recommended plan has been endorsed as the best levee plan by the U. S. Fish and Wildlife Service and the Louisiana Department of Wildlife and Fisheries. The Red River Valley Association requests that Congress approve sufficient funds for the completion of advanced planning of the Below Red River Project.

Construction of these projects should be completed at the earliest possible time to provide the protection determined to be justified, authorized and necessary by the U. S. Army Corps of Engineers.

ALOHA-RICOLETTE PROJECT

This project, initially authorized in 1941 and constructed during the period 1948-54, provides for the protection of some 58,000 acres of alluvial land during high stages of the Red River. Drainage from 340,000 acres that must flow through protected areas during lower river stages is disposed of by gravity flow through two 10 ft. by 10 ft. gated concrete drainage structures in the levee at the lower end of the project. This protected area has continued to develop agriculturally since construction of the project and now additional gates are needed to allow adequate gravity drainage during low river stages. As a result, local interests have requested that additional studies be made of the project, paying particular attention to the adequacy of the floodgate which has now been determined to be significantly inadequate for current conditions.

A feasibility study underway by the New Orleans District of the Corps of Engineers is scheduled for completion shortly. The Red River Valley Association urges that Congress appropriate the full capability of the Corps FY90 budget to continue preconstruction engineering and design activities for the project so that it can be advanced to the construction stage as soon as possible; that Congress authorize the additional construction recommended in the New Orleans District report and that $7.6 million be appropriated for this construction.

LOWER RED RIVER SOUTH BANK LEVEE

The South Bank Levee is a feature of the Mississippi River and Tributaries Flood Control Project and calls for improvement of the existing levee from the community of Hot Wells, Louisiana to Moncla, Louisiana. Construction procedures include: strengthening and enlarging substandard levee reaches, raising the levee to the designed grade, bank stabilization to protect the levee and other miscellaneous levee and roadway improvements. This levee is of extreme importance since it protects 1.25 million acres of valuable lands and improvements from flooding. This work should be completed in a timely and orderly manner; therefore, the Red River Valley Association endorses an adequate appropriation by Congress for FY90.

In addition, the Red River Valley Association requests full Corps capability for replacement of the Bayou Rapides gravity flow gated structure and pumping station through the levee at Bayou Rapides. The structure was damaged during recent high water and no longer functions at needed capacity. Since the structure is the responsibility of the Federal government, separate Congressional authorization for replacement is requested.

EASTERN RAPIDES-SOUTH CENTRAL AVOYELLES DRAINAGE DISTRICT

After many years of delay, the Eastern Rapides-South Central Avoyelles Drainage Project was authorized as a feature of the Mississippi River and Tributaries Flood Control Project. Unfortunately, construction has not been started subsequent to the authorization of 1970.

This project encompasses the upper part of a drainage system that would directly and indirectly benefit parts of the parishes of Rapides, Avoyelles and Evangeline, where more than 206,000 acres of valuable agricultural land are subject to flooding. Flooding of this acreage occurs at least four times a year. This flooding is the result of Federal government authorized construction of the South Bank Red River Levee and the West Atchafalaya Basin Protection Levee which intercepted the natural drainage channels. Additionally, one large urban community, Alexandria, Louisiana, has been adversely affected by the poor drainage conditions that drastically need improvement.

There is an urgent need to begin work on this extensive project, which would traverse southeasterly from Alexandria for some 80 miles before entering the

Atchafalaya Basin Floodway. Many studies have been made, and public hearings have been held. However, it has come to our attention that after all of these studies and hearings, additional mitigation is now being required as a result of comments by the U. S. Fish and Wildlife Service, delaying completion of the final report.

The Red River Valley Association strongly recommends that the Corps of Engineers expedite their review of the project so that construction can begin as soon as possible.

LOWER RED RIVER LEVEES

The South Bank Levee in the Red River, Atchafalaya and Bayou Boeuf Levee District from Boyce, Louisiana to Moncla, Louisiana is a feature of the Mississippi River and its Tributaries Flood Control Project. A continuation of this same levee from Moncla to Lake Lone, Louisiana is under a different authorization, thereby denying the benefits of the MR&T authorization to the people and property in the protected area. The North Bank Levee of Red River, in the same levee district, does not benefit from the MR&T authorization, yet they also protect the lives of many people and vast areas of farm land and improvements.

Both the South Bank and the North Bank Levees of the Red River are part of a continuous protective system; the lower few miles from Moncla to Lake Long are a part of that system. The Red River Valley Association recommends that Congress authorize the Corps of Engineers to review the present authorization of these levee systems, with the view of including all portions in the same MR&T authorizations so as to provide equal benefits and protection to the people and property of the Red River Basin Area in Louisiana.

AUTHORIZATIONS AND/OR APPROPRIATIONS

BAYOU COCODRIE AND TRIBUTARIES

This project was authorized in 1941 and provides a drainage outfall for a large area of central Louisiana, including 120 miles of drainage channel, three water control structures and a major drainage structure in the West Atchafalaya Basin Protection Levee. The upper 100 miles of the project extending from Rapides Island west of Alexandria, Rapides Parish to the town of Washington, St. Landry Parish, is known as the Bayou Bouef-Cocodrie Diversion Channel. The lower 21 miles in Bayou Courtableau.

Most of the project was completed in 1952. Since that time, as a result of extensive developments throughout this intercepted drainage area, stages in the main channel system have continued to rise and have exceeded the design water surface by several feet on a number of occasions. Under present conditions, widespread flooding of agricultural lands and extensive damages from flooding of residential areas occur and continues increasing with each passing year. There is a critical need for improvement to these drainage channels which are intercepted by construction of the Red River South Bank and West Atchafalaya Floodway Levees.

For the lower part of the project (Bayou Courtableau), advanced engineering and design were considered to be completed in 1980. It now appears that additional studies of this portion of the project are necessary. These additional studies will continue to delay construction of several P.L. 566 projects for drainage improvements in this area which have not been allowed to proceed because of inadequate outlet through Bayou Courtableau. For the upper part of the project, Bayou Boeuf-Cocodrie Diversion Channel, the system is under a continuing re-study to determine improvements that need to be accomplished in the system.

The Red River Valley Association urges that these additional studies be promptly completed so that construction of this outlet can begin.

BAYOU RAPIDES PUMPING STATION

The Bayou Rapides pumping plant was constructed in 1930-31 by the state of Louisiana and the Red River, Atchafalaya and Bayou Boeuf Levee District with a pumping capacity of 100,000 gallons per minute. Located beneath the pumping station are six reinforced concrete gated openings to provide drainage by gravity when Red River stages permit. During high river stages, the floodgates must remain closed. The present pumping capacity should be increased eleven times to 1,100,000 gallons per minute which is necessary to provide reasonable protection against flooding for a 25-year storm frequency. The pumping station is a necessary integral major structure incorporated into a complicated drainage system for the City of Alexandria, Louisiana and connects to the Bayou Rapides-Bayou Cocodrie Drainage systems and the Red River.

As a major structural feature providing for intercepted drainage resulting from Federal levee construction, it is clearly established that replacement of this pumping station with an adequate capacity is a responsibility of the Federal government.

The Red River Valley Association strongly urges the Corps of Engineers to expand the existing Bayou Cocodrie and Tributaries study and include the Bayou Rapides Pumping Station as a feature of the overall interconnected drainage system, with a view to authorization and construction of adequate pumping and/or drainage facilities. Further, if such addition to the existing study results in drastic delay and/or funding impacts, the Red River Valley Association recommends separate Congressional authorization for this urgently needed study.

RED RIVER MASTER PLAN FOR RECREATION

Recognizing that recreation is an integral component of the Red River Waterway Project, the Association supports the development of recreational facilities as a part of the overall project construction. A Master Plan for Recreation has been cooperatively developed by the Red River Waterway Commission of Louisiana and the Corps of Engineers. The Red River Valley Association urges construction of the recreational facilities in accordance with the Master Plan.

OKLAHOMA PROJECTS

McGEE CREEK

McGee Creek Lake was authorized for construction, operation, and maintenance in accordance with Federal Reclamation Laws by P.L. 94-123 September 28, 1976. McGee Creek Lake is located in Atoka County in southeastern Oklahoma. McGee Creek is a northern tributary of the Red River. The damsite is about 3.4 miles above the confluence of McGee and Muddy Boggy Creeks. The project was authorized for water supply, flood control, and recreation. Construction began on the project in June 1982.

The Red River Valley Association strongly supports continuation of this project and the concept demonstrated by the project of maximum development of the local economy by maximum utilization of opportunities provided by the project's development. The Association recommends the members of the McGee Creek Authority to continue to cooperate with the basin interests to fully develop the economic potential of this project to the project area and the nation. The Red River Valley Association requests that $2.77 million be provided to continue this project, including all roads associated with the project.

BROKEN BOW REREGULATION DAM HYDROPOWER PROJECT

The Broken Bow Reregulation Dam is part of the Broken Bow Lake project and is located about 8.? miles downstream of the main Broken Bow Dam. Broken Bow Lake is an existing Federal project on the Mountain Fork River in McCurtain County, Oklahoma, operated by the U.S. Army Corps of Engineers, Tulsa District. The project was authorized by the Flood Control Acts of 1958 and

1962 to include project purposes of flood control, water supply, hydropower, recreation and fish-wildlife conservation. The reregulation dam was constructed as a part of the original project to smooth the fluctuating flows caused by hydropower discharges from the upstream main dam and to provide pondage for low flows during nongeneration periods. Due to the discharges from upstream power generation during peak power demand periods and approximately 30 feet of head at the reregulation structure, the opportunity exists for capturing this energy potential by construction of hydroelectric power generating facilities. The Broken Bow Lake and Reregulation Dam have been in operation since 1970.

An interim report on the feasibility of installing hydropower at the Broken Bow Reregulation Dam was completed by the Corps of Engineers, Tulsa District in July, 1988. This study was conducted under the authority of the Red River Basin, Arkansas, Texas, Louisiana and Oklahoma Comprehensive Study (P.L. 98-63 approved 7/30/83) pursuant to language contained in House Report 98-217. The interim report concludes that the addition of generating facilities at the regulation dam is technically, economically and environmentally feasible. The report selected the 7,325-KW plan as the National Economic Development Plan and recommends it for Federal construction. The Southwestern Power Administration recommended plan in financially feasible and could be marketed through their interconnected power system. The U.S. Fish and Wildlife Service (USFWS) supports the project as it is recommended by the interim report.

The Water Resources Development Act of 1986 (P.L. 99-662) specifies that the costs of a project assigned to hydropower shall be 100% non-Federal. The RedArk Development Authority by resolution dated 3/24/88 established their desire and willingness to become the non-Federal sponsor of the Federal hydroelectric power project at the Broken Bow Reregulation Dam.

The Red River Valley Association strongly supports Federal hydropower projects which are technically, economically and environmentally feasible and where non-Federal sponsors are available to develop the project according to P.L. 99-662. The Association requests that the Corps of Engineers be directed to construct the Broken Bow Reregulation Dam Hydropower Project as a Federal project.

TEXAS PROJECTS

APPROPRIATION RESOLUTIONS

RED RIVER NAVIGATION - DAINGERFIELD REACH

The Red River Navigation Project should be viewed as a whole project producing benefits for the entire region and nation. The Red River Valley Association fully supports the continuation of the authorization for the Shreveport/Daingerfield reach, and requests that Congress continue funding FY90 for resurvey and continuation of preconstruction planning.

COOPER LAKE AND CHANNELS

The Cooper Lake and Channels Project was authorized by the 84th Congress on August 3, 1955, for the construction, control, recreation and water supply benefits to the citizens of this nation. The COE and three local entities, Sulphur River Municipal Water Districts, North Texas Municipal Water District and the City of Irving, have been attempting to build this project since its authorization. The project has been delayed since 1978 by litigation to modify the Environmental Impact Statement. That litigation has now been resolved.

The COE has made what it considers to be the required modifications on the Cooper Lake Project, which is desperately needed by the local participants for water supply, and by the City of Texarkana for replacement flood control storage in Lake Wright Patman. The Red River Valley Association recommends that the Congress fund the project in the amount of $31 million in FY90 for continued construction and channels.

AUTHORIZATION RESOLUTIONS

RED RIVER ABOVE DENISON-CROWELL SITE

A more detailed feasibility report must be prepared on the proposed Crowell Site on the main stem of the Pease River to take into account more realistic values of all benefits. This investigation should be started at once since this portion of the Red River Basin is particularly short of usable water for municipal, industrial and agricultural uses. Additionally, this reservoir would be very valuable as a flood control project.

Within a few years, with the control of natural pollution as proposed by the Corps of Engineers Ark-Red Chloride Control Program, this water can be used for irrigation purposes and other purposes mentioned above and it is now time that the necessary report and feasibility study on this proposed site be started.

This proposed project has been endorsed and is supported by Wilbarger, Foard, Hardeman, Cottle and Childress Counties and the Soil Conservation District serving these counties and the Cities of Vernon, Quanah, Childress, Crowell and Paducah, as well as the Four Winds Foundation, consisting of Childress, Cottle, Hardeman and Foard Counties, and the Four Winds RD&D, and many farm and civic organizations.

The Red River Valley Association supports the Pease River Reservoir Steering Committee in its request and recommends the Corps of Engineers to expedite its efforts to develop a plan of improvement for the area.

MCGRATH CREEK PROJECT

McGrath Creek is a tributary of Holliday Creek and drains approximately 5.6 square miles of highly urbanized watershed within the City of Wichita Falls. A flood control project for Holliday Creek is currently under construction by the Corps of Engineers. Damage in excess of $20 million occurred on the McGrath Creek watershed during a flood which occurred in May of 1982. The City is pursuing federal assistance for McGrath Creek to alleviate the estimated $1.6 million per year of average flood damage which currently occurs. A feasibility study outlining a $9.4 million project has been approved by the Corps of Engineers and the City of Wichita Falls is prepared to pay the local match.

The City and the Red River Valley Association strongly support the $300,000 request by the Corps of Engineers for engineering and design funds for McGrath Creek. We believe that the engineering should proceed as soon as possible to ensure proper coordination with the ongoing Holliday Creek construction which should result in significant savings. We believe that this project is necessary for protection of a very large segment of highly urbanized land and the project is certainly worthy of the 1.7 benefit to cost ratio as calculated by the Corps of Engineers in the feasibility report.

FEDERAL LEGISLATION AND POLICY RESOLUTIONS

NON-FEDERAL COST SHARING

The Water Resources Omnibus Bill was signed into law by President Reagan on November 17, 1986. Non-federal cost share provisions set forth in this important piece of legislation include:

--Flood Control-25-50%, with a minimum of 5% cash up-front during construction.
--Hydropower - 100% reimbursable.
--M & I Water Supply-100% up-front during construction or reimbursable with interest.
--Agriculture - 35% up-front or reimbursable.
--Recreation - 50% up-front or reimbursable.
--Fish and Wildlife Enhancement-0% for national benefits; 25% up-front or reimbursable if benefits are local.

Feasibility Level Studies - 50% during the course of the study, with a minimum of 25% in cash - up to 25% may be provided in-kind. (excludes inland navigation studies involving dams, locks and channels.)

Even though these and other cost-sharing provisions are generally outlined in the Omnibus Bill, there still remains substantial leeway for interpretation and formulation of guidelines. The Red River Valley Association highly recommends that the federal government solicit state and local input towards implementation of equitable and realistic cost-sharing guidelines.

NATIONAL ENVIRONMENTAL POLICY ACT

While recognizing the need and intent of the Congress in passing the National Environmental Policy Act of 1969, the Red River Valley Association also believes that the interpretation of this act has caused unnecessary economic hardship to the general public. The delay in start of projects beneficial to the general goodwill causes the real cost of the projects to increase significantly, often to the point that they no longer are economically beneficial.

The Red River Valley Association requests Congress to revise this Act to:

1. Streamline Administration procedures under the Act to speed up the time for completion and review of an Environmental Impact Statement (EIS) in a Federal project.

2. Recognize Man as a part of the environment and require that the effects upon Man be taken into account in the preparation and analysis of an EIS.

3. Require that any person, association or other entity contesting the adequacy of the Administration procedures in preparation and/or review of EIS be required to post bond in evidence of financial responsibility to reimburse the constructing agency for cost of delay in the event that the EIS and/or procedure appealed is found to be adequate, if not otherwise provided by existing law.

The membership of the Red River Valley Association is concerned about unwarranted delays that add additional costs to Red River Basin projects resulting in severe hardships on the citizens of the Red River Basin. The membership urges that Congress direct public officials and agencies to proceed with sound long-range development of the Red River Basin and its resources for the benefit of Arkansas, Louisiana, Oklahoma and Texas.

RIGHTS-OF-WAY RESPONSIBILITIES

The Flood Control Act of 1946 provided for enlargement of existing levees and construction of certain authorized levees on Red River below Denison Dam. Language in the Act requires local interests to be responsible for all lands, easements and/or rights-of-way required for construction of the improvements. Levee districts and local governing bodies have found that the number of enlargements, setbacks and berms have progressively increased and rights-of-way costs have sharply increased, particularly in the past 10 years. Financial burdens resulting from increased costs for rights-of-way have steadily depleted limited revenues and funds of levee districts and local public bodies throughout the Basin area. The impact is so great that presently there are serious monetary problems and realistic doubt as to the abilities of various levee districts to continue to meet financial obligations.

The requirement of local interest to furnish all rights-of-way is not consistent with Congressional policy and is not compatible with other major river basin projects for flood control. It is obvious that modifications are drastically needed to correct these inadequacies.

The Red River Valley Association recommends Congress amend the 1946 Flood Control Act to permit Federal reimbursements to levee district and local governing bodies for fair market value of lands taken for all flood control purposes, including construction of new levees, levee setbacks, levee enlargement, levee turnovers, berms and cutoffs as necessary. Such

modification is required at an early time to help relieve local levee districts and governing bodies of an extreme financial burden and to assure progressive advancement of the flood control program in the Basin.

UNIFORM RELOCATION ASSISTANCE ACT

Red River Basin Levee Districts and the Red River Waterway Commission are experiencing increasing costs in the construction of navigation systems and construction and operation of flood control systems. The tax base of the basin lands is not capable of supporting additional tax loads to fund the relocation costs associated with levee setbacks, flood control works and navigation projects. The Federal Government through P.L. 91-646, known as the Uniform Relocation Assistance Act, provides that these relocation costs are the responsibility of and must be borne by local interests. The requirements and guidelines established in this Act are such as to be extremely costly.

The Red River Valley Association requests the Congress to amend the Federal Uniform Relocation Assistance Act to provide for Federal payment of all such costs related to the construction of flood control and navigation projects in the Red River Basin of Arkansas, Louisiana, Oklahoma and Texas.

MAINTENANCE OF CHANNEL STABILIZATION WORKS

Past experience on the Red River and many other river projects has shown conclusively that maintenance of channel stabilization works by local interests is impractival. Rapid changes in river conditions and alignment, such as occur frequently on Red River, demand drastic extensions and revisions of existing protective works and, occasionally, required changes are so radical that relocations are necessary. Experienced personnel, special equipment and certain materials are not normally available from local interests when needed and the costs of these items exceed the financial capabilities of local levee districts.

The Red River Valley Association recommends to Congress that the COE be authorized and directed to maintein all bank stabilization and channel training work on the Red River.

RED RIVER BASIN BENEFICIAL USES OF SALT WATER

On Sept. 23, 1982, the U.S. House of Representatives Committee on Public Works and Transportation adopted a resolution directing the COE to determine the feasibility of salt gradient solar ponds and associated power generation equipment to collect and store solar energy and to generate electric power in the Red River Basin.

The inherent thermal storage capability of salt gradient solar ponds and the associated solar pond power plant concept offers a potentially viable alternative energy source which makes use of abundantly available natural resources (sun, salt and land) and existing technology (i.e. heat exchangers and low temperature turbine generators). The necessary resources are readily available in the Red River Basin, particularly in western Texas and Oklahoma where there are identified sources of salt brine in economical quantities feasible for use in conjunction with solar ponds.

Limited scope reconnaissance studies performed in FY84 by the Tulsa District COE indicate a strong likelihood that a system of solar pond power plants can be economically feasible when constructed in conjunction with the chloride control measures in the Red River Basin. The report recommends expanded reconnaissance studies be made in the basin. The Red River Valley Association supports the investigation and requests that the stated FY90 capability level of the COE be appropriated at 100% Federal cost to continue these studies.

HYDRO-ELECTRIC POWER DEVELOPMENT

When Red River Basin projects were initially authorized, the need for alternate energy sources was not deemed of paramount importance to the welfare of the nation, and therefore, hydro-electric power generation was not incorporated as a feature in any of the authorized projects.

Since the mid-1970s the energy situation has changed drastically, forcing the nation to begin investigating methods of developing and utilizing alternate energy sources such as hydro-electric power. In keeping with this important trend, the COE has been authorized to conduct studies for hydro-electric power development in the Red River Basin.

The Red River Valley Association strongly urges continued funding for these studies to ensure that optimum power generation can be achieved while, at the same time, insuring that the water supply needs of the communities affected by these projects continue to receive priority emphasis.

FEDERAL PROCEDURES FOR A PROJECT STUDY

Current procedures require the COE to hold three or more public hearings for all studies authorized by Congress. The initial public hearing held at the beginning of the study provide the proponents and opponents of the proposed project ample opportunity to express their desires and needs. Prior to submission of the completed study to higher authority for review, a final public hearing is required. Additional interim public meetings are held to obtain recommendations of the local interests. These additional interim hearings result in an overall project delay, increased study costs and, being repetitious, do not advance the project in any way. Former procedures used by the COE requiring the Division Engineer to issue a Notice of Survey Report to all interested parties effectively accomplished the overall purpose of the second public hearing. The Red River Valley Association is opposed to the project study procedure requiring the additional hearing and recommends that the former procedure be re-established.

CHANGES DURING A FEDERAL STUDY

During the phase of completing the General Design Memorandum for an authorized project, local interests, levee boards and the state governmental offices of primary interest should be kept advised of the study progress. In particular, any changes of the originally authorized plan as it may affect the project and/or the purpose of the project should be communicated to the local and state governments.

EMPLOYMENT OF LOCAL PEOPLE

A significant advantage of construction projects by the COE is the employment of local people, benefitting the unemployed and providing higher employment of the under-employed within the project area. COE policies allow that construction contracts be written to require that up to 80% of the labor force employed by private contractors on the Red River Waterway projects come from out of state. According to the Red River Valley Area Council, there are qualified and skilled construction workers in the Red River Valley who could perform the work required.

The Red River Valley Association urges the COE and Congress to do all within their power and within the law to enforce and encourage the employment of as many people as possible from the surrounding local communities in the construction of the federal projects along the Red River Waterway.

COST OF STORAGE FOR MUNICIPAL AND INDUSTRIAL WATER

Federal laws under which the multi-purpose federal water projects were authorized, require purchases of any water supply or power to repay the Federal Government full cost of providing such power or water including interest on that cost at a rate the government paid to borrow long-term money in the year it built the project. This specific pricing mandate was established by the Water Supply Act of 1958.

Since 1976, the Secretary of Army has required construction costs escalated to present day levels by use of the Engineering News Record Construction Index effective at the beginning of the Fiscal Year in which the contract is approved plus interest.

The Red River Valley Association requests Congress clarify the Secretary of Army's authority regarding water storage contracts and supports the concept of repayment to the Federal Government of original cost of construction plus interest only.

REGULATING LAND USE

In the past, proposals have been offered in the U.S. Congress and in some state legislatures to regulate and control the use of privately owned lands without compensation to the owner. These "land use" bills have been recognized by these legislative branches of government as contrary to the 5th Amendment of the Constitution of the United States and soundly defeated each time they were offered. The Red River Valley Association opposes this type of national land use legislation.

MITIGATION LANDS

The present interpretation held by the U.S. Fish and Wildlife Service in relation to "mitigation lands" for water conservation projects greatly hinders the development of water supplies, flood control and bank stabilization projects. This interpretation requires taking large amounts of lands out of private ownership for wildlife management purposes. This reduction in private land ownership represents a considerable economic and tax base loss. The Red River Valley Association, recognizing the need for a balance between the environmental aspects and people's needs, requests Congress to press for a revision of the present interpretation held by the U.S. Fish and Wildlife Service in order to make it compatible with Congressional intent and the needs of the people.

The Fish and Wildlife Service has undertaken efforts to utilize various alternative action programs such as fee acquisition, leasing and easements for the purpose of a program to preserve bottom land habitats.

As part of this program, the Fish and Wildlife Service has identified specific bottom land hardwood areas in Texas and Oklahoma and has placed these areas into priority categories, with many of the areas so identified in direct conflict with identified and proposed water supply reservoir sites.

The Fish and Wildlife Service's Program could have serious adverse effects on the ability of water supply agencies to meet the future water needs of the people within their respective regional water supply areas in that the program sets a dangerous precedent that will permit anti-water development groups to use such tactics to preempt, or at least make very difficult, future water development projects. The Red River Valley Association, therefore, opposes the Fish and Wildlife Services' Bottom Land Hardwood Preservation Program.

SMALL WATERSHED PROGRAM

The Red River Valley Association has long recognized the value of the Small Watershed Program (P.L. 566) for protecting and improving the soil and water resources of our nation. Resource improvement projects in small watersheds of less than 250,000 acres, as provided in P.L. 566, gives rural and small town America an effective tool to span the gap between large watershed resources improvement projects of the COE and small individual projects carried out by landowners and operators. P.L. 566 has become a well-known and respected program of federal, state and local partnership in resource improvement and protection of the Red River Valley. The Red River Valley Association supports the Small Watershed Program and urges its effectiveness be increased through appropriate increases in funding and personnel.

FEDERAL RESERVOIRS POLICY

Federal reservoirs represent a combination of large economic investments and commitments of valuable natural resources which can make great contributions to the nation's economy. The Water Supply Act of 1958 provides a policy for non-Federal payment of water supply costs at federal reservoirs, both for participants at the time of project construction and for those who purchase reallocated storage at a later time. The payment required has been based on a

simple principle: new water supply participants should pay for reallocated water supplies as they would have paid if they had been water supply participants when the project was built. This historic policy has achieved two goals: it has prevented "free riders" from receiving water supply benefits that they did not pay for, and it has facilitated reallocation of water to purposes with higher economic benefits.

In recent years, the federal government has developed a new policy for payment of reallocated water supplies, charging the highest of the following: benefits or revenues foregone, replacement costs, or updated cost of storage in the Federal project. Under this new policy, the federal government has in several cases sought repayment of "updated costs" of storage amount the new mix of project purposes. Non-Federal participants are asked to pay an inflated cost, increased to reflect present cost levels instead of original cost of construction, plus interest at the rate in effect at the time of reallocation, as opposed to the interest rate at the time of the project's construction. This new federal policy has been established by agency initiatives, rather than by Congressional action, and has not been applied consistently across the nation.

The Red River Valley Association requests Congress to enact legislation making it clear that the water supply repayment policy in the Water Supply Act of 1958 applies to reallocated water supply storage. The Red River Valley Association also requests that Congress further stipulate that in considering reallocation of storage space at federal reservoirs, federal agencies should strictly respect state water law and state water management responsibilities, and in all studies and decisions related to reallocation, federal agencies should be required to consult with all affected states and follow applicable state laws on water rights and water quality.

STATEMENT OF WILLIAM C. CHAPMAN, VICE PRESIDENT FROM OKLAHOMA, RED RIVER VALLEY ASSOCIATION

Mr. CHAPMAN. Mr. Chairman, I would like to compliment you and your committee on the fine work and help that you have given us through the years in investment of our area of the entire Red River Valley. If it had not been for you and your committee and the other side of the House as well, we would not see the progress that has been made so far.

I will submit my written testimony, but in the interest of time I would like to highlight two points of that and just refer you to that written testimony. I would like to say that the Oklahoma delegation fully supports all the resolutions which the Red River Valley supports to you wholeheartedly. I just want to pick out two that particularly pertain to Oklahoma.

BROKEN BOW REREGULATION DAM, OK

One of these concerns is the Broken Bow reregulation dam hydropower project. A good number of years ago, the Federal Government built through the Corps of Engineers the Broken Bow Reservoir and included in that a hydropower project, so we are now generating power from water coming out of that dam.

At that time as part of that project, you built a reregulation dam some 8.7 miles downstream, and this primarily regulated the water flow for wildlife purposes, fish and that type of thing. This reregulation dam has been built and is in use.

It has been determined by that leaving this reregulation dam but adding hydropower usage to the reregulation dam downstream at slight cost, we can use the water a second time to generate power

and not change the usage of the reregulation dam for wildlife purposes.

So we would like to ask that you direct the Corps of Engineers to construct this hydropower project downstream. The RedArk Trust Authority has asked to be the non-Federal sponsor of this project, and we heartily recommend its acceptance.

Red River Chloride Control Project

The other project that I would particularly like to hit concerns the Red River chloride control project. I am going to rely on my Texas colleagues to give you the details on the part of their side of the river which we wholeheartedly support.

In Oklahoma we have only one natural source, but it happens to be the largest single source of chloride in the Red River basin, and in addition to what we are presently asking you to do in Texas, we would like to ask that you continue to fund the Corps of Engineers Tulsa District in Oklahoma to finish the design stage of this Oklahoma source of chloride which is area 6 so that the construction can be moved forward as appropriate.

That concludes my testimony.

[The statement follows:]

Statement of Bill Chapman

My name is Bill Chapman, and I serve as the Oklahoma Vice Pesident of the Red River Valley Association. I was raised and still make my home in the Red River Valley. I am an attorney and a rancher. I and other members of my family have several agricultural holdings along the Red River in Oklahoma as well as Texas. As a result of these interests and being a lifelong resident of the Red River Valley, I am deeply interested and concerned about the proper development and utilization of this valuable national resource.

We in Oklahoma are concerned with several projects in the Red River Valley. This is appropriate since almost half of the State of Oklahoma is in the drainage basin of the Red River. The remainder of my presentation will address these projects and our request regarding each.

There is one lake that is still in the construction phase in Oklahoma in which we are vitally interested. McGee Creek Lake is the only project under construction in the Oklahoma portion of the Red River Valley. This lake is being constructed by the Bureau of Reclamation as a multipurpose project and is nearing completion. In order to keep this project on schedule and to fully realize the previous investment, we are asking that $2,770,000 be provided to continue this project, including all roads associated with the project.

Also in Oklahoma we are concerned about the Broken Bow Regulation Dam Hydropower Project which is located some 8.7 miles downstream from the Broken Bow Reservoir on the Mountain Fork River in McCurtain County, Oklahoma. The Oklahoma Delegation of the Red River Valley Association fully supports the acceptance of the Red Ark Trust Authority as the non-Federal sponsor of this project, as we request that the U.S. Army Corps of Engineers be directed to construct the Broken Bow Reregulation Dam Hydropower Project as a federal project.

High flows of water and widely fluctuating stages of the Red River continues the back-caving along the Red River between Index, Arkansas, and Denison Dam, which in turn causes the loss of valuable vital improvements and non-replacable agricultural lands. These disastrous losses can be stopped by a systematic program of bank stabilization. It is essential that progressive construction of bank stabilization projects be initiated and continued. Consequently, the Oklahoma Delegation agrees with both the Arkansas and Texas Delegations in requesting that the Appropriations Committee appropriate $500,000 in FY 90 to continue pre-construction planning work.

The last project that I would like to address is the Red River Chloride Control Project. The entire Red River Valley is becoming increasingly concerned about the ample supply of clean water available for use by the communities along and near the Red River as well as the pollution of the Red River, especially by the natural

sources of pollution which the federal government has long since accepted the responsibility to clean up. Large volumes of salt enter the Red River in the form of natural brines from salt springs and salt deposits. Some 10 major sources have been identified, 9 in Texas and 1 in Oklahoma. One source, Area VIII, located in Texas has been constructed and its brine is being pumped through the Bateman Pump Station and pipeline into Truscott Lake all of which was put into operation in May of 1987. Working closely with the Texas Delegation, the Oklahoma Delegation of the Red River Valley Association also requests this committee recommend to Congress the appropriation of $5,000,000 in FY 90 to permit the immediate initiation of construction of the low flow dams and pump stations in Areas VII and X and to continue the original design of Crowell Brine Lake and the brine detention reservoir and pump stations so that construction of these features can be initiated in FY 91. Further as the largest single and the only source of salt flowing into the Red River in Oklahoma, the Oklahoma Delegation would like to ask the committee to continue to fund the U.S. Army Corps of Engineers, Tulsa District, enabling it to finish the design state of Area VI located in Oklahoma so that the construction can be moved forward as appropriate.

STATEMENT OF ROBERT MANSELL, VICE PRESIDENT FROM TEXAS, RED RIVER VALLEY ASSOCIATION

Mr. DUGGAN. Our next witness is Mr. Robert Mansell. He is the manager of the North Texas Municipal Water District in Wiley, TX.

Bob.

Mr. MANSELL. Thank you, Senator Johnston, for hearing us today.

We realize in this time of fiscal constraints your challenges are great. We also think there is a chance with some of the problems of localized funding, drought in the Midwest and the productivity problems on the Mississippi River that people will realize the importance of water projects. They will realize that these projects are an investment in their future that will benefit this Nation in the long run.

RED RIVER WATERWAY, SHREVEPORT, LA, TO DAINGERFIELD, TX

The specific projects I wish to speak on today are, first, the Red River navigation project. There are two particular aspects: First, the need to truly provide a definite schedule for completion of various project features.

As you have well said today, the development of port facilities by local agencies is of the utmost importance, and being able to provide those agencies with a schedule will help them tremendously in their ability to invest local funding. If they had a schedule, then you would see local port development and the economic benefit of a navigation project would come about at a much quicker pace.

We are also concerned with a particular feature of the Red River navigation project commonly referred to as Shreveport to Daingerfield, TX. Somehow that little feature seems to be considered a separable element, which we do not really understand nor do we agree with. We feel that the Red River navigation project was authorized many years ago, and it has continued to be developed step by step, and we wish that funding be included. If you can find the money, as much as $600,000, for the continuing study of the feature from Shreveport to Daingerfield, TX.

We would also like the committee to consider funding for the Lake Wichita, Holiday Creek, and McGraff Creek flood control projects at Wichita Falls, TX.

Cooper Lake and Channels, Texas

In addition, we would support the appropriation of $31 million for the construction of Cooper Lake and channels, Texas. That is a project of the North Texas Municipal Water District which I work for and the city of Irving, TX, and Sulphur River Municipal Water District are involved in. Those agencies are proceeding now to construct an intake structure and pipeline estimated to cost $60 million, which will be paid for entirely by local funds.

It is of utmost importance, therefore, to those people that the funding continue on Cooper Lake in a timely manner so the project can be completed in 1991. That is the current schedule of the Corps.

Red River Chloride Control Project

The final project I wish to address is the Red River chloride control project. That is a difficult project. It involves physical facilities for natural pollution control located in two States. It involves improvement in water quality that can benefit four States. It is obviously a project that has been discussed in this committee, and your committee has looked at it many times.

I am concerned that it has become a credibility issue, that the people in the local area many years ago felt that if they would clean up the manmade pollution, primarily a spillage of oilfield brine, that the Federal Government would come in and clean up the natural pollution.

The local agencies in Texas and Oklahoma have moved forward to control and dramatically reduce manmade pollution. At the same time, the Corps moved ahead and built certain portions of the chloride control project, and then the project was stopped.

This project has been restudied. It is shown to have a positive cost benefit. We know it is tough this year, and we would certainly hope that the committee would be able to find funds. We have been told that $5 million would move the project back along at a rapid pace construction schedule, but we would hope that the committee would be able to find some funding in whatever magnitude appropriate to get this project moving forward so that the people in the four-State area will feel that the project is moving and their efforts to control manmade pollution have not simply been wasted.

With that I will close, and again I thank you for the opportunity to speak today, Senator.

[The statement follows:]

Statement of Robert B. Mansell

Mr. Chairman and Committee Members, my name is Robert B. Mansell. I am Vice President/Texas of the Red River Valley Association. I am employed as an Assistant to the General Manager of the North Texas Municipal Water District. I would first wish to express the gratitude of the Association for the continued support of water projects not only in the Red River Valley but across this nation. The development of water projects in our complex society is difficult, time consuming and often controversial in nature. These projects are vital to the well being of this nation. The unique combination of the drought conditions which exist in the mid-West, localized flooding in portions of the East and low flow conditions interrupting navigation, and therefore the productive capacity of the Mississippi Valley, may soon cause the general populous to recognize the importance of the continued development of water resource related projects. The projects must be planned and imple-

mented in a professional manner and cannot be created as a knee jerk reaction to a crisis situation. Your committee has focused on the future and we know you have tried your best to provide continued and timely funding of needed projects. Your efforts are appreciated by those of us here today and the people that we represent.

Specifically, I would wish to express support for the continued and timely funding of the Red River Valley Navigation Project. The Red River Navigation Project should be constructed at its optimum size. Cutting the project without proper evaluation of the economic impact of such acion appears to be inappropriate to those of us in the Valley. Specifically, the Red River Valley Association requests continued funding in the amount of $75,000 to determine the feasibility of the portion of the project referred to as the "Shreveport, Louisiana to Daingerfield, Texas Link." Those of us working to assure the project will be properly utilized for industrial development and recreation request the Red River Navigation Project continue to be looked at in its entirety. The continued attack by a few special interest groups on various project features are not beneficial to the project or the citizens of this country. In order to provide local government and industry with the tools to be able to create jobs and utilize the project as it is envisioned, those agencies must be able to feel confident the project will be constructed in its entirety and provided with a general time frame for complete construction. The local interests suffer when they are concerned about a turn on-turn off situation in respect to the project. It makes the investment of needed local funds for port development and waterway industry very, very difficult. In fact, it simply assures the local investment will be deferred until the federal work is complete, thereby creating a less than ideal economic situation.

The Red River Valley Association requests support for continued development of flood control work needed to protect lives and property in Wichita Falls, Texas. The project is referred to as "Lake Wichita, Holiday Creek and McGraff Creek" and should receive continued funding.

The Red River Valley Association supports an appropriation of thirty-one million dollars ($31,000,000) for the Cooper Lake and Channels Project, Texas. The local sponsors of Cooper Reservoir, the North Texas Municipal Water District (my employer), the City of Irving, and the Sulphur River Municipal Water District, are proceeding to construct the intake structure, pipeline and pumping facilities necessary to utilize Cooper water. It is the goal of the local sponsors to have sixty million dollars ($60,000,000) of facilities in place when Cooper water becomes available. Funding in an amount adequate to meet the September, 1991, estimated date of deliberate impoundment of Cooper Lake, is of course of great importance to the three local sponsors. I would note the local sponsors will be ready to use Cooper water when it becomes available; therefore, putting to rest one of the many erroneous claims made by the few elitist groups opposing Cooper Lake.

The final project I wish to address is the Red River Chloride Control Project. The project, directed toward the improvement of water quality in the States of Texas, Oklahoma, Louisiana, and Arkansas, is a solid and technically sound project that will provide widespread national and regional benefits. The written testimony of the Association provides details and documentation of the positive studies that have been conducted in respect to this project. I am concerned the Red River Chloride Project is becoming a symbol dealing with credibility of the federal government. Many of the long time project supporters from the four state area believe they were promised by the federal government if the states and local agencies would work to clean up man-made pollution of the Red River, the federal government would solve the problems related to natural pollution. The man-made pollution has been eliminated or upgraded to meet state and federal requirements. Congress, in the 1970's, authorized construction of certain features of the Red River Chloride Project but the project stalled. Putting this project back on a schedule for implementation would restore confidence of local project supporters and be very beneficial to the area and productivity of the nation.

Thank you for providing this time to testify before the Committee. Your continued support is appreciated.

STATEMENT OF JOHN F. STROUD, JR., MEMBER, BOARD OF DIRECTORS, RED RIVER VALLEY ASSOCIATION

Mr. DUGGAN. Next is Mr. John Stroud, director of the Red River Valley Association. He is an attorney at law in Texarkana, AR. He represents the State of Arkansas.

Mr. John Stroud.

Mr. STROUD. Mr. Chairman, I would like to just mention some of our projects. I know your staff will go over our statements carefully.

RED RIVER EMERGENCY BANK PROTECTION

You have funded each year the emergency bank protection, which has been the source of funding for our realignments and revetments. There will be a contract let next month for Bayer realignment, and the Corps is ready to move on the last realignment in Arkansas, Brown Bend.

I asked the Corps to tell me the least money that they needed to construct this project on the revetment that needs to be built at the same time, Slay Bend. They said after looking carefully that they had some carryover money and that they could do this with $4 million, which is less than you funded last year.

We know your budget constraints, and we are not asking for more, hoping to get two-thirds. This entire amount of $4 million is needed with language to say that it would remain available until expended for the construction of Brown realignment and Slay Bend revetment that is contiguous.

Senator JOHNSTON. As you know, that never has been budgeted. We always had to put the money up.

Mr. STROUD. Yes, sir; I am quite aware of that, for many years.

A second project that affects all four States is, of course, the basinwide study, and we simply ask you again to include language that asks as a part of that. A study of feasibility of navigation to Arkansas is ongoing right now.

Years ago it was always spoken of as Shreveport to Index, and we recognize the possibility that it might be feasible to some point short of that. We, therefore, ask that it be Shreveport to Index and all points in between. We do not want a nonfeasible report when it might be feasible to another location.

That is ongoing. Whatever amount you deem appropriate for that project will affect hydropower studies, recreation, and flood control, but we ask for the same language that you included last year.

This $50,000 is a small amount compared to the requests today, but we need that to continue planning of the Shreveport to Index comprehensive bank stabilization study. That is the vehicle that will kick in at some point in the future.

I might tell you beginning with Governor Bumpers, now our senior Senator, the first funds were appropriated into a Red River Waterway trust fund and by Governor Pryor and every Governor since. From a State that has had difficulty meeting its needs, we have over $6 million invested in certificates of deposit when that day comes.

Very briefly, you appropriated $1 million last year directing reconstruction of a failed floodgate and that the surplus of those funds could be used to begin a reshaping of levees. We have a most difficult time maintaining the levees with the steep banks. We ask that you continue that $1 million for the reshaping program that would allow the study of preconstruction work and the funding of all the Corps feels can be done within a year.

Finally, we join with the statement you will find in the Oklahoma testimony that you seriously consider again initiating the beginnings of planning for Index at the Arkansas-Texas boundary to Denison Dam for stabilization. They have bank caving, too. This was funded 1 year back in fiscal year 1984 and not funded since, but we are working in that direction and we feel that is needed.

We certainly thank you for your past courtesies, and I will just leave the rest to my written statement.

[The statement follows:]

STATEMENT OF JOHN F. STROUD, JR.

As attorney for the Red River Commission of Arkansas, I wish to thank the members of this Committee for the opportunity to again express the concerns, needs and priorities of funding vitally needed from the Congress to continue the orderly development of the Red River Valley in Southwest Arkansas.

Twenty-two years ago, the bank caving in Southwest Arkansas accelerated to such an extent that the levee boards in that area banned together to form an association to present testimony to the Congress with a united voice. At that time, some of the upstream dams in Arkansas and Oklahoma had been completed which substantially alleviated the threat of floods, but which rapidly accelerated the bank caving due to the river remaining at one-half to two-thirds bank full for long periods of time. Since that time upstream dams known as Millwood, Gillham, Dierks and DeQueen have been completed which have further reduced the threat of flooding, but which have accelerated the bank caving even more.

The State of Arkansas became concerned at this rapid irreparable loss of the most fertile farm land in Southwest Arkansas and recognized that bank stabilization could be a prelude to navigation into Southwest Arkansas. Therefore, sixteen years ago the Arkansas General Assembly created the Red River Commission upon the recommendation of Governor Dale Bumpers, now the Senior United States Senator for the State of Arkansas. The Commission was vested with the authority to furnish the local cooperation necessary for the construction and study of projects and to coordinate with the Corps of Engineers and the Congress to develop the water resources of the Red River in Arkansas. Southwest Arkansas is fortunate to have an abundance of water, rich soil and timber resources, but we vitally need the assistance of Congress to continue the bank stabilization projects for the preservation of these natural resources, and to continue the feasibility study of the extension of navigation from Shreveport, Louisiana to Index, Arkansas or to some other location in Southwest Arkansas.

RED RIVER EMERGENCY BANK PROTECTION (LOUISIANA, OKLAHOMA, ARKANSAS AND TEXAS)

It is imperative that this program continue to be funded to provide bank stabilization works in those portions of the river where the caving is most critical and where stabilization works were not included in earlier authorizations. At many of these locations the river threatens vital flood control facilities and endangers valuable public facilities.

The final realignment project in Arkansas to be known as Brown Bend Realignment and a contiguous revetment project called Slay Bend Revetment should both be initiated to stop the loss of valuable farmland and to stop the transfer of large quantities of sediment to the navigation system downstream. This reach of the river has been identified as having the most severe bank caving. According to the Corps of Engineers, these two projects that are contiguous should be constructed simultaneously. If the realignment project is constructed and the revetment project is deferred, bank caving would be greatly increased at the downstream end of the realignment project.

Funding of the Emergency Bank Protection Program will continue to allow these vital improvements to be accomplished in the areas most critical during the completion of planning still required before a comprehensive bank stabilization program can begin to be constructed.

Continued neglect of these caving banks will substantially worsen alignment of the river, making future realignment for navigation and stabilization more costly and difficult. Many caving banks still have an existing alignment that is usable for the navigation channel when it is authorized, and those banks should be preserved now.

We urge your inclusion of funding of the Emergency Bank Protection program in the amount of $4,000,000 for fiscal year 1990 to remain available until expended for construction of Brown Bend Realignment and Slay Bend Revetment.

RED RIVER BASIN COMPREHENSIVE STUDY

This study was authorized and initiated in 1983 and began with a feasibility study by the Tulsa District. The Vicksburg District has now undertaken its reconnaissance and feasibility studies to include flood control, water supply development, generation of hydro-electric power, development and enhancement of recreational potentials and improvement of the river for navigation and port-site development. The study of hydro-electric power in conjunction with navigation on the Red River will undoubtedly prove of economical benefit. We, therefore, urge your approval of the full Corps capability for fiscal year 1990 to continue this comprehensive study, and to specifically include the continuation of a study of the feasibility of navigation from Shreveport, Louisiana to Index, Arkansas or to the point in Southwest Arkansas where navigation is currently feasible.

RED RIVER WATERWAY PROJECT, SHREVEPORT, LOUISIANA, TO INDEX, ARKANSAS

The Congress has funded preconstruction planning for this comprehensive bank stabilization program for several years for the reach of the river from Shreveport, Louisiana upstream to the Arkansas-Texas boundary at Index, Arkansas. Although much needed stabilization work in certain areas has been performed with funding by the Emergency Bank Protection and Red River Levees and Bank Stabilization Below Denison Dam projects, only through the completion of preconstruction planning and then construction of this comprehensive bank stabilization program can the loss of valuable farm land be ended.

Tens of thousands of dollars have been contributed by the four counties bordering the Red River in Arkansas and by the towns and communities within those counties and over six million dollars has been placed in the Red River Waterway Trust Fund by the Arkansas General Assembly to meet the non-federal costs required upon construction of this project. The Red River Commission is continuing its efforts to have the non-federal costs in hand when the preconstruction planning is completed so that construction can begin in an orderly manner without delay.

Not only will this project end the loss of some of the nation's most valuable resources but substantial benefits will accrue to the navigation project downstream which is presently under construction. The farm land is now washed downstream only to form worthless sand bars and place tremendous amounts of silt in the channel, both to the detriment of navigation. We, therefore, request an appropriation of $50,000 during fiscal year 1990 to continue preconstruction planning of this comprehensive bank stabilization program.

RED RIVER LEVEES AND BANK STABILIZATION BELOW DENISON DAM

Last year you appropriated $1,000,000 to fund the construction of a failed flood gate on McKinney Bayou Drainage Ditch in Miller County, Arkansas and indicated that any funds remaining could be utilized to initiate the reshaping of levees. A few years ago the Corps of Engineers completed a study indicating that the levees along the main stem of the Red River in Arkansas should be reshaped to conform to the new flow line resulting from the study. Funding is needed to allow the Corps of Engineers to determine the deficiencies in the project levees in Arkansas that are a matter of grave concern to the Corps of Engineers and the levee districts, and to initiate detailed design for construction of remedial measures.

The reshaping of the levees will allow a more gentle slope on both sides of the levee to increase their integrity and substantially

reduce maintenance costs. The Arkansas Red River Commission urges that Congress appropriate the sum of $1,000,000 to determine deficiencies, design remedial measures and begin construction of this project.

RED RIVER BANK STABILIZATION, INDEX, ARKANSAS TO DENSION DAM

Bank caving is not only a serious problem between Shreveport, Louisiana and Index, Arkansas, but it continues upstream between Index, Arkansas and Denison Dam, Texas. The Congress saw fit to initiate preconstruction planning for a comprehensive bank stabilization project in that reach of the river during fiscal year 1984, but it has not been funded for continued study since that year. We urge the reinstatement of this preconstruction planning project recognizing that many years of planning are required before construction of this type project can begin. We hope that an orderly development up Red River can continue in the years ahead for the benefit of the people of all four states bordering the Red River. We, therefore, urge you to appropriate the sum of $500,000 to resume this preconstruction planning program during fiscal year 1990.

RED RIVER WATERWAY, MISSISSIPPI RIVER TO SHREVEPORT, LOUISIANA

It is a pleasure for the Red River Commission of Arkansas to join with the State of Louisiana to seek funding for the prompt construction and completion of Locks and Dams No. 4 and No. 5. We are well aware of the economic impact that will occur not only to Louisiana, but certainly to Southwest Arkansas when the navigable channel reaches the port of Shreveport, Louisiana. We, therefore, urge your approval of $97,000,000 for fiscal year 1990 for this project.

1. Red River Emergency Bank Protection (Louisiana, Oklahoma, Arkansas and Texas);
   Funds requested for FY-90 — $4,000,000

2. Red River Basin Comprehensive Study (Arkansas, Louisiana, Oklahoma and Texas) for continuation of planning
   Funds requested for FY-90 — Full Corps Capability

3. Red River Waterway, Shreveport, Louisiana to Index, Arkansas - for continuation of preconstruction planning;
   Funds requested for FY-90 — $50,000

4. Red River Levees and Bank Stabilization Below Denison Dam (Texas, Arkansas and Louisiana) for reshaping levees;
   Funds requested for FY-90 — $1,000,000

5. Red River Bank Stabilization, Index, Arkansas to Denison Dam, Texas (Arkansas, Oklahoma and Texas) for resumption of preconstruction planning;
   Funds requested for FY-90 — $500,000

6. Red River Waterway, Mississippi River to Shreveport, Louisiana - to continue construction of Lock and Dams No. 4 and 5 for FY-90
   Funds requested for FY-90 — $97,000,000

RED RIVER WATERWAY, LA

STATEMENT OF NORMAN BUDD, COMMISSIONER, RED RIVER WATERWAY COMMISSION

Mr. DUGGAN. Thank you, John.

The next speaker will be Mr. Norman Budd. He is the commissioner of the Red River Waterway Commission, a contractor in Alexandria, LA, and he will speak for the State of Louisiana.

Mr. BUDD. Mr. Chairman, it gives me great pleasure to be here with you today since we know we have your ear. You have helped us throughout this project. If it had not been for you, we would not be here today.

We were on the hit list about 5 or 6 years ago, and you brought us out of that.

Just a small statement here. As a senior member of the Red River Waterway Commission, let me again reassure you of the great economic benefits of this vast project for Louisiana and its people.

The Red River Waterway project is now more than 50-percent complete, and we still hold as our objective navigation to Shreveport in the year of 1994. I speak for the commission as a whole when I say that we continue to strive and work toward this end.

We wish to thank you, the members of the Appropriations subcommittee, as well as all the Members of Congress, especially the Louisiana delegation, for your support during this difficult economic time. We are extremely gratified and wholeheartedly support the proposed allocation level for the Red River project. We are requesting the full $97 million funding level and any additional budget allocations we might require which would facilitate accelerated construction.

As a matter of information for the members of this subcommittee, the Red River Waterway Commission can report that Lock and Dam No. 43 is nearly 40-percent complete.

We also continue an aggressive approach to right-of-way acquisition to keep pace with our target date of 1994.

As our project advances upstream, port and recreation development continue to be items that are constantly addressed. We look forward to the initiation of locks and dams 4 and 5 in April 1990.

With our continued double digit unemployment figures in our area as compared to the national unemployment, we need to press for economic development and jobs for our State and its people. The completion of the final segments of this project will give Louisiana a much needed boost.

[The statement follows:]

STATEMENT OF NORMAN BUDD

Honorable Ladies and Gentlemen of the Committee, as a senior member of the Louisiana Red River Waterway Commission, let me again reassure you of the great economic benefits this vast project has for Louisiana and its people. The Red River Waterway Project is now more than 50% complete and we still hold as our objective—navigation to Shreveport in 1994. I speak for the Commission as a whole when I say we are all striving and working toward this end.

We wish to thank you, the members of the Appropriations Subcommittees, as well as all the members of Congress, especially the Louisiana Delegation, for your support during these difficult economic times. We are extremely gratified and wholeheartedly support the proposed allocation level for the Red River Project. We are

requesting the full $97,000,000 funding level and any additional budget allocations we might acquire would facilitate accelerated construction.

As a matter of information for the members of this subcommittee, the Red River Waterway Commission can report that Lock and Dam No. 3 is nearly 40% complete. We also continue an aggressive approach to right-of-way acquisition to keep pace with our target date. As our project advances upstream, port and recreational development continue to be items being constantly addressed. We look forward to the initiation of Locks and Dams No. 4 and No. 5 in April of 1990.

With our double digit unemployment figures, we need to press for economic development and jobs for our state and its people. The completion of the final segments of the project should give Louisiana a much needed boost.

We want to continue to strive for our project goals while constantly supporting the administration and Congress in their work at reducing the national debt. We strongly believe in the attainment of both objectives. As a matter of record, we also wish to show support for the basin wide request made by the Red River Valley Association on behalf of our sister states that border the Red River. The cohesive action of the Red River Valley Association makes all of these projects closer to reality. This great association is the driving force for the four state area and their people.

Let me close by saying, we appreciate and cherish the privilege to be able to address this body and share our comments with you.

Senator JOHNSTON. Thank you very much, Mr. Budd, and thank you, gentlemen, for excellent testimony.

I continue to say that our goal is 1994 to Shreveport and to go beyond Shreveport as far as we can and as quickly as we can. We have to get to Shreveport first. That is a goal which we ought to be able to do.

Now in order to do that, we have to put locks and dams 4 and 5 under contract simultaneously, and it is my intention to provide that legislation this year. We hope we can reach the target of $101 million which the State has required. It is going to be tough to go there, and we cannot be sure of that. I would be at least hopeful that we will be able to meet the budget request.

The problem, of course, is as you well know and as you have heard all morning, the lack of money and the tremendous requirements that we have in other areas of the budget—drugs, research and development, child care, et cetera.

I think with the placing of locks and dams 4 and 5 under contract simultaneously, if we are able to achieve that through legislative language, then it should not be too difficult to reach our goal of navigation to Shreveport by 1994. The key is to get that language, and that will be our purpose in this year's bill.

Now I want to introduce somebody to you whom you all know, the most outstanding Senator in the whole United States Senate, my colleague, John Breaux. [Applause.]

STATEMENT OF HON. JOHN B. BREAUX, U.S. SENATOR FROM LOUISIANA

Senator BREAUX. Thank you very much, Mr. Chairman. I appreciate those warm words of introduction. I know that as long as we have the Senate Subcommittee on Appropriations for Energy and Water Development covered by you, we are not going to have many problems in Louisiana or indeed the whole middle part of America.

I thank the panel for being here. We have worked with them over the years, and the message that you bring today is one of great importance.

It is more than just Louisiana. I see our colleague from Mississippi, Senator Cochran.

Senator JOHNSTON. He is the second most outstanding. [Laughter.]

Senator BREAUX. The concern here is that our area has been draining 40 percent of all of North America for many, many years, in addition to providing the energy for most of America for all of these years. Really, the Federal Government has a responsibility. We have leveed off our river systems. In doing so we have contributed to the loss of the wetlands in the United States and in south Louisiana in particular.

So I really think that it is clear that there is a Federal and a national obligation to help those parts of the United States like Louisiana and Mississippi which have made these contributions with regard to navigation and flood control as we have and to help us continue to finish the job.

We do need help, Mr. Chairman. I know, as you said, these are incredibly tight times as far as the Federal budget is concerned, but it is also incredibly important that we balance those needs, and you have shown us what those needs are today.

I echo your call for a completion and contracting out on locks and dams 4 and 5. It is absolutely essential that that be done.

I think that your committee will also be looking at the funding legislation to help us address the wetland loss problem in Louisiana. Senator Johnston and I have joined in a wetland legislation effort which has now been introduced and is pending before the Senate. We would hope that we can get action on that this year.

I certainly just want to say thank you for letting me be with you. I certainly support what these gentlemen are requesting and want to work with them to try and get it accomplished. With the leadership Senator Johnston is providing for Louisiana and Mississippi, I know that we are going to get it done. I would hate to not have him in that position.

Thank you.

Senator JOHNSTON. Thank you very much, John.

We did not recognize the president of the Red River Valley Association, Ed Harris. Ed, would you stand up back there. Applause is permitted. [Applause.]

Senator JOHNSTON. Thank you very much. We appreciate your testimony very much, Mr. Duggan.

Next we have the Port of New Orleans with Herb Haar.

LOWER MISSISSIPPI RIVER NAVIGATION PROJECTS

STATEMENT OF HERBERT R. HAAR, JR., SPECIAL ASSISTANT TO THE PRESIDENT AND CHIEF EXECUTIVE OFFICER, PORT OF NEW ORLEANS

Mr. HAAR. Thank you, Mr. Chairman. It is nice to be here today with you, Senator Breaux, and Senator Cochran, all good friends who have been very supportive of the Port of New Orleans over the years. We very much appreciate your strong support and leadership in the Senate and on the Appropriations Committee.

Mr. Chairman, I know we are strapped for time. I would like to give a brief introductory statement and submit my full statement and supplementary graphics for the record and then introduce Capt. Jack Michell, the president of the Associated Barge Pilots, to make a very brief statement on a new critical problem developing

in the lower Mississippi River, to be followed by Channing Hayden, vice president of the New Orleans Steamship Association.

We were informed that the Port of New Orleans recorded 168 million tons of cargo in 1987, a 12.75-percent increase over the previous year's 149 million tons. Thus, the Port of New Orleans becomes the No. 1 leading seaport in terms of tonnage in the Nation.

The Corps stated that the deepening of the Mississippi River certainly was a factor in New Orleans improving its tonnage statistics. Thanks to Congress and the efforts of the New Orleans District of the Corps, we feel that we are now in a more competitive position for the import/export bulk ports of the world.

In 1987 the lower Mississippi River, Baton Rouge to the Gulf of Mexico, handled 133 million tons of foreign water borne commerce worth $21.4 billion. This cargo represented nearly 16 percent of the Nation's water-borne trade. Mr. Chairman, that is demonstrated and illustrated in the supplemental graphics booklet on pages 5 and 6. It just gives you a little more detail on that, and I think it is of a passing interest.

Mr. Chairman, I would like to recommend seven projects for funding support as shown on the summary of my statement involving the Mississippi River, the Mississippi River gulf outlet, the Mississippi River outlets at Venice, the ship lock in New Orleans, the gulf and the coastal waterways, and the Red River Waterway project, for the full funding capability of the Corps and also in connection with the Mississippi River gulf outlet if possible, the additional funding of $2.1 million for repair of the south jetty under this project.

I would also like to observe, Mr. Chairman, that the dredging in Southwest Pass of the Mississippi River will provide bank restoration in Southwest Pass from the Mississippi River will provide bank restoration in Southwest Pass from the material that is dredged during the maintenance dredging cycle.

Mr. Chairman, that concludes my introductory remarks. I just want to mention in introducing Capt. Jacques Michell, president of Associated Branch Pilots, that we have a very critical problem that has developed and has been developing in the past months and has become even more critical in recent days. He is going to tell you more about that. We may need some special help from your committee.

Thank you, sir. I would like to introduce Captain Michell now.

[The statement follows:]

STATEMENT OF HERBERT R. HAAR, JR.

I am Herbert R. Haar, Jr., Special Assistant to the President and Chief Executive Officer of the Port of New Orleans. I am here to testify on behalf of the Board of Commissioners of the Port of New Orleans - a unit of local government of Louisiana - and on behalf of neighboring Gulf States, the Mid-America States and the Nation as a whole.

The year 1986 saw the passage of Public Law 99-662, the Water Resources Development Act of 1986. That long awaited development was and is still heralded by our country's port industry. The Mississippi River from the Gulf of Mexico to Mile 181 AHP has been a 45-foot deep channel for some time now. The former District Engineer of the U. S. Army Corps of Engineers, New Orleans District, recently released the Corps' cargo tonnage figures for the Port of New Orleans for the year 1987. We were informed that the Port of New Orleans recorded 168 million tons of cargo in 1987, a 12.75 percent increase over the previous year's 149 million tons - thus, the Port of New Orleans regained its former position from the Port of New York as the nation's leading seaport in terms of tonnage. The Corps has stated that the deepening of the Mississippi River certainly was a factor in New Orleans' improving its tonnage statistics. Thanks to Congress and the efforts of the New Orleans District, we feel that we now are in a more competitive position with the import/export bulk ports of the world. That position of strength in trade is essential to our nation's very well-being when one considers that foreign trade has been, and continues to this day, a sustaining force behind our country's growth. Ninety-one percent of our foreign merchandise trade by volume - and two-thirds of it by value - moves in ships. With 18.2 percent of the nation's foreign waterborne commerce passing through the ports of Louisiana, the State of Louisiana has had a profound influence on employment, plant construction and access to worldwide markets.

We believe our Louisiana ports have a distinct advantage in access to foreign markets at competitive transportation costs. In order to handle the waterborne commerce, hundreds of barge lines serve our nation's inland waterways. In the Lower Mississippi River region, over 100,000 barges pass through the Port of New Orleans annually, handling the waterborne commerce of the area. To carry the cargo between New Orleans and its trading partners throughout the world - serving, for example, more than 150 countries - approximately 3,700 vessels, operated by more than 130 steamship lines, call at the port in a year's time. These trading partners and percentages of trade are Europe (28%), Latin America (24%), Asia (34%), and Africa (12%).

It is undeniable that the New Orleans area plays a vital role in the international commerce of this nation. In 1987 the lower Mississippi River (Baton Rouge to the Gulf of Mexico) handled 133 million tons of foreign waterborne commerce. Worth $21.4 billion, this cargo represented nearly 16% of the nation's international waterborne trade. Bulk cargo accounted for 94% of this volume, primarily the result of tremendous grain and animal feed exports and petroleum imports. More specifically, over 2 billion bushels of grain coming from 17 states and representing 46% of all U. S. grain exports entered the world market via the ten grain elevators and midstream transfer capabilities on the lower Mississippi River. This same port complex received 18.7 million short tons of crude petroleum in 1987, 9 percent of the U. S. waterborne imports of that commodity.

Also in 1987, public and private facilities of the Port of New Orleans handled 44.9 million tons of foreign cargo worth $10.5 billion (included in lower Mississippi River statistics). Of this amount,

general cargo tonnage totalled 7.4 million tons (major commodities: iron and steel products, rice, paper products, coffee and crude rubber). This latter figure rose to 8.2 million tons in 1988. Although the volume of bulk cargo statistically dwarfs the amount of general cargo handled, the significance of the port in the movement of general cargo should not be overlooked. The Port of New Orleans consistently ranks in the top five general cargo ports in the country. Furthermore, per ton, general cargo is very valuable to the community as it produces a greater local economic benefit than does bulk cargo.

While the port's foreign market is worldwide, its domestic market is primarily mid-America, the heartland of the United States. This heartland region currently produces 60% of the nation's agricultural products, 1/2 of all of its manufactured goods, and 90% of the country's machinery and transportation equipment. Waterborne commerce from this region is projected to reach 800 million tons by the year 2000.

Essential to our national economy is the continued growth and development of the lower Mississippi River regional complex. Most major trading nations of the world have deep draft ports and are in the process of developing more. As I alluded to earlier, with the passage of the Water Resources Development Act of 1986, United States ports are on the way to becoming more competitive in the world market place.

In June of 1986, the State of Louisiana signed a Local Cost-Sharing Agreement with the Assistant Secretary of the Army for Civil Works for the first increments of deepening the Mississippi River Ship Channel, Gulf to Baton Rouge, Louisiana. Last year we were able to report that the initial 45-foot channel from the Gulf of Mexico was completed to River Mile 151 Above the Head of Passes. By the end of December 1988, the Corps had completed the initial construction dredging of the 45-foot channel from the Gulf of Mexico to Mile 181 AHP, thereby capturing the majority of estimated benefits attributed to the deeper channel. In fact, nine of the ten active grain elevators and four floating grain elevators that serve the vast mid-American, agricultural hinterland are reasonably assured of a minimum safe channel depth of 45-feet. Remaining yet for total first phase completion of the project are the project mitigation features for which the Administration has proposed $3.0 million. We urge that the Corps be funded this amount in the Fiscal Year 1990 Construction, General, Appropriation.

The Port of New Orleans continues in maintaining its position as one of the nation's largest ports with a total of foreign and domestic waterborne commerce tonnage of approximately 168 million tons in 1987 while the Port of Baton Rouge, located 125 miles upriver, handled 73.4 million tons to retain its position as the fifth largest port in the nation. Both port complexes are entirely dependent upon timely and adequate dredging of the Southwest Pass to provide access to the Gulf. Judging from past experiences with spring thaws bringing higher river stages and higher rates of siltation, we feel that the proposed budget of $44,650,000, if adequate, would be marginally adequate at best with the new 45-foot channel in Southwest Pass, Bar Channels, and crossings. Accordingly, if greater capability exists, we urge that Congress appropriate the Corps' full capability so that much of the unscheduled bank stabilization be undertaken in Fiscal Year 1990 - thus, realizing earlier-on the benefits in decreased maintenance cost.

We are equally concerned with maintaining adequate depths and channel widths in the Mississippi River-Gulf Outlet Channel. In 1988, the waterborne commerce handled on the MR-GO generated an estimated 5,300 jobs with wages in excess of $100 million and approximately $343 million in revenues, both direct and indirect, throughout the state of

Louisiana. Although maintenance costs on this project cannot be related to any shoaling rate but more to severity and intensity of unpredictable Gulf storms, we believe that funding in the amount of the Corps' full capability of $8,260,000 will be adequate and so recommend. Incidentally, in 1987 the 2,221 vessels calling on the MR-GO Tidewater facilities accounted for 52 percent of the general cargo tonnage handled over public facilities at the Port of New Orleans.

The $600,000 construction funds proposed for the Mississippi River-Gulf Outlet, New Ship Lock project are also essential at this time for the continuation of the economic feasibility reevaluation studies and continuation of general design studies. Further, we strongly recommend an additional $670,000 in construction funds to continue the study of the serious erosion problems in the MR-GO.

The operation and maintenance features of the Mississippi River Outlets at Venice, Louisiana are fundamental in providing safe and essential offshore support access to energy-related industries. We strongly recommend approval for the administration's proposed $3,090,000 for the continued maintenance of these critical east-west navigation channels, Baptiste Collette and Grand and Tiger Pass.

Finally, we urge continuation of general investigation funding to determine the advisability of deepening and widening that segment of the Gulf Intracoastal Waterway from New Orleans to Brownsville, Texas. The requested amount is $210,000 and should complete funding for this study. This study addresses our concerns over bank erosion, salt water intrusion, and required improvements for the safety and efficiency of the waterway.

In closing, I would like to speak to one additional project that deserves our attention; that is, the Red River Waterway, Mississippi River to Shreveport, Louisiana Project, providing for 236 miles of navigation improvements, 225 miles of channel stabilization works, and various recreational facilities. The $97 million in the budget request is essential for continuing the completion of this project - ultimately to result in stimulating economic growth along the basin of the Red River. We do believe, however, that FY 1990 funding for this project should be increased to $99.3 million, the Corps' full capability to pursue this project.

Mr. Chairman, this concludes my statement and I thank you.

I will be followed by Mr. Channing Hayden, Senior Vice President of the New Orleans Steamship Association, and Captain Jacques Michell, President of Associated Branch Pilots.

1. MISSISSIPPI RIVER SHIP CHANNEL, GULF TO BATON ROUGE, LA.
   We recommend that the Corps be funded to a minimum of $3.0 million for Fiscal Year 1990 to complete the project mitigation features of the first phase of the deepening project.

2. MISSISSIPPI RIVER, BATON ROUGE TO THE GULF, MAINTENANCE DREDGING
   We urge that Congress appropriate as a minimum $44,650,000 under O & M General. However, if greater capability exists, we urge that this amount be further increased to the extent that much of the unscheduled bank stabilization be undertaken in Fiscal Year 1990.

3. MISSISSIPPI RIVER-GULF OUTLET (MR-GO), LA, MAINTENANCE DREDGING
   We recommend Congress to appropriate the full amount of $6.1 million as contained in the Administration's FY 90 budget request.

We also recommend additional funding of $2.160 million in Corps' capability for repair of the South Jetty under this project.

4. MISSISSIPPI RIVER-GULF OUTLET, LA., NEW SHIP LOCK
The $600,000 construction funds proposed for the New Ship Lock are essential to the completion of local reevaluation studies and continuation of general design studies. In addition, we recommend $670,000 construction funds to continue the study of the erosion in the MR-GO.

5. MISSISSIPPI RIVER OUTLETS AT VENICE, LA.
We recommend approval of the Administration's proposed $3,090,000 for continued maintenance of these critical east-west navigational channels, Baptiste Collette and Grand and Tiger Pass.

6. GULF INTRACOASTAL WATERWAY, LOUISIANA & TEXAS SECTION
We urge approval of general investigation funding in the amount of $210,000 for completion of the study to determine the advisability of deepening and widening project segment from New Orleans to Brownsville, Texas.

7. RED RIVER WATERWAY, MISSISSIPPI RIVER TO SHREVEPORT, LA.
The $97 million in the budget request is essential for continuing the completion of this project -- ultimately to result in stimulating economic growth along the Red River Basin and increase cargo movements through the Port of New Orleans. We strongly recommend approval of this budget proposal and encourage its increase to the Corps' full capability of $99.3 million.

SOUTHWEST PASS SHOALING

STATEMENT OF CAPT. JACQUES B. MICHELL, PRESIDENT, ASSOCIATED BRANCH PILOTS, PORT OF NEW ORLEANS

Mr. MICHELL. Good morning, Mr. Chairman, Senator Breaux, Senator Cochran.

The problem that Colonel Haar has referred to, Senator Breaux, I think you have a very good recollection that we approached you and Representative Tauzin back in 1985. The problem has been addressed in the past number of years by the Corps of Engineers in attending to shoalling that has occurred particulary in the Southwest Pass of the Mississippi River.

All of the commerce that is done in the Mississippi River Valley eventually flows in or out of Southwest Pass, and Southwest Pass is the Achilles heel of the Mississippi River system.

The Corps of Engineers in the past years has responded to the problem while simultaneously deepening the Mississippi River system in that lower part to 45 feet, and the figures reflect that has been very successful.

We have recently been faced with some rather unusual shoalling. We have not been able to fully analyze the causes and how to resolve them, but the initial indications are that perhaps there is a need to set aside or to obtain additional funding to put dredges and equipment in a standby status for emergency uses that cannot be predicted even by the best professionals involved.

So essentially the rest of my testimony has been submitted for the record, and this additional part has just come up. We do not

fully have a handle on it right now. We will be meeting again with the Corps of Engineers tomorrow as soon as we return to New Orleans and try to get a feel for what is going on and what we can do about it.

We would like for you at this time to try to keep an open mind to the fact that we may be back up here with a very important request because we do definitely need to provide stability down there.

Ship fixtures are made well in advance. In other words, arrangements to ship cargo in or to load a ship in the Mississippi River system and have it come out are made months in advance, and when these types of problems arise—the particular problem is the project had been dug to 45 feet of water depth. The pilots who operate down there, the pilots who I represent, have been able to take advantage of tides and currents and so forth and move ships in excess of the 45-foot project. We have done that for quite a number of years to be able to exceed the project dimensions.

When the project was at 40 feet we were able to handle ships as deep as 43 feet. The new project is at 45 feet. We had achieved 46 feet, and we were preparing to go to 47 feet when we were hit by this problem.

This problem has caused a reduction down to 40 feet. That is devastating for the industry. It is devastating for the United States because customers are lost when they cannot depend on their cargoes being shipped efficiently and economically.

So I would appeal to this committee to try to keep an open mind and recognize that we may be back with a request for additional funding to try to address these problems in the future.

Thank you very much.

Senator JOHNSTON. Of course, we know the importance of Southwest Pass. The Corps has the ability to move money around to meet the maintenance needs. There is some $40 million in maintenance dredging now. We understand it is a brand new problem, and we will follow it very carefully and seek to respond to whatever those needs are in 1990.

Mr. HAAR. The Corps is very aware of this, and they are working on it. They will be coming through their channels to you, too, on this, and we are working closely with them on this. So it is a coordinated team effort in this regard.

Senator JOHNSTON. Senator Breaux.

Senator BREAUX. Let me ask a question. Had we set up a procedure whereby the Corps was going to have a response team there and dredge equipment that was available on an emergency basis if that problem occurred?

Mr. MICHELL. That is why we have. No. 1, we have not had a chance to evaluate what happened. No. 2, the Corps had set up a procedure, and we do not believe it is a failure of that procedure. We have to evaluate the situation right now and make that determination. We have not had an opportunity to do that.

Senator BREAUX. Is there a dredge available?

Mr. MICHELL. Dredges were there. In fact, dredges were there prior to the occurrence of this. We had some problems. As I said, we have not fully analyzed to see if somebody dropped the ball or if this was really something that was totally unpredictable.

Then also we have another factor in there. There is a ship that has grounded, and it is turning out to be a very catastrophic grounding. It is a very critical location, and it is contributing to the shoalling, and the turbulence that is coming off of that grounded ship has prohibited the two dredges from getting in there and doing the work they need to do.

So that is complicating the situation, and we have to analyze it to be sure that it is something, No. 1, that indicates a need for more funding and, No. 2, to make a determination of whether this was something that was predictable or not and, No. 3, if it is not predictable then to support the request for additional funding to put the procedures in place next time.

Senator BREAUX. Thank you.

[The statement follows:]

STATEMENT OF JACQUES B. MICHELL

Good morning. My name is Jacques Michell. I am president of the Associated Branch Pilots, the Bar Pilots for the Port of New Orleans. For more than 100 years, the men who have comprised this organization have piloted ships transiting an area from the Gulf of Mexico to a point above the head of passes of the Mississippi River.

During 1988, the 45 men who currently comprise the Associated Branch Pilots were aboard 10,590 transits in the area from the Gulf of Mexico to the head of passes. That translates into one vessel transit every 50 minutes, 24 hours a day, seven days a week, 365 days a year.

Of that 10,590 vessel transits, 691 were of vessels of a class capable of drawing in excess of 45 feet of draft. Of that 691, more than two-thirds presented themselves for transit during the last quarter of 1988.

To help ensure successful transits of the lower river, the Bar Pilots work with and rely upon information produced and work performed by the U.S. Army Corps of Engineers to maintain the ship channel of the Mississippi River and avoid loss of project depth.

We have a long history on the river...and so does the Corps.

In fact, two weeks and fifty years ago, on March 15, 1939, Harry H. Woodring, then United States Secretary of War, submitted a report written by the Chief of the Army Corps of Engineers to the Committee on Rivers and Harbors of the U.S. House of Representatives detailing the need for improvements to the lower Mississippi River and her shipping lanes.

Referencing the trends in modern commerce towards larger vessels and acknowledging the importance of the Mississippi River to the economic and national security of the United States, the report resulted in the main ship channel of the lower Mississippi River being deepened to 40 feet below mean low gulf.

In addition to the monies required to construct the deeper channel, the report called for funds to be appropriated to maintain the project. Maintenance of the project is accomplished in two ways: one, by the natural scouring action of the river that results from the velocity of the water and design of the channel, and two, by the dredging activities performed by the Corps to remove the material that the design of the project is unable to handle.

Fifty years later, the need for maintenance has not changed, but the project has. In December of 1987, the Corps of Engineers completed phase one of deepening the lower Mississippi River to its new congressionally authorized project depth of 45 feet below mean low gulf, from the Gulf of Mexico to a point some 201 miles to the north.

Mother nature ignores man's work and fifty years later the river still begins its rise in early winter, cresting sometime in late spring. That rise is the result of snow melt upcountry and spring rains in the Mississippi valley. It brings with it tremendous amounts of solids suspended in the river, solids carried by the natural velocity of that high river.

As the river approaches its delta and the Gulf of Mexico, its begins to slow and its ability to maintain those solids in suspension decreases. As those solids drop out, they cause shoaling in the channel, and if those deposited solids are not removed in a timely fashion, they can result in the project depth being lost.

To the Corps, that means an expenditure of funds to contract and deploy dredges, to operate survey boats to determine areas of difficulty, to pay personnel, all to regain the authorized project depth.

Loss of project depth also means loss of available draft for ships. The inability to fully load a vessel translates into reduced revenues and higher costs that come from diminished ecomonies of scale.

To the companies and industry that rely on a stable channel to move their products to and from markets, loss of project depth means not only loss of revenue, but loss of jobs, and loss of monies to the state's tax base.

You can always regain project depth, but you can't count on regaining a customer's confidence. The booking of a vessel to load a cargo, or fixing a ship,

is done in advance and is significantly affected by market conditions at the time of fixture. For example, during last summers' record low water levels, ships that would normally have been fixed in mid-summer for fall loadings ended up calling on other ports or not calling on the United States at all. Confidence in the integritry of the project depth, and thus, vessel draft at the time of loading is a trust that once breached, may never be restored.

Victims of this breach of trust are not just shipowners but farmers in Iowa, coal miners in Kentucky, workers of all levels throughout the interior United States' producing, manufacturing, transporting and delivery sectors. Few are untouched.

Funding the maintenance of the lower Mississippi River encompasses maintenance of not just those businesses located in the state of Louisiana, but the industries located along the entire system - from St. Paul, Minnesota to Kenova, West Virginia to Venice, Louisiana.

We ask that you not only fully fund the Corps of Engineers request for operation and maintenance monies, but consider increasing it to a level sufficient to permit the Corps to fund standby equipment and the operation of survey boats when there is reason to believe that extreme shoaling conditions may occur, and enable the Corps to respond to emergency situations as we are currently experiencing in the lower reaches of the ship channel.

I will submit for the record a series of hydrographic surveys taken of portions of the lower reaches of the channel that lead up to and include the devasting loss of channel that we have recently experienced. And I will be happy to answer any questions you may have, now or in writing.

Thank you for the opportunity to appear before you today.

STATEMENT OF CHANNING HAYDEN, VICE PRESIDENT, NEW ORLEANS STEAMSHIP ASSOCIATION

Mr. HAAR. Sir, I would like to call on Mr. Channing Hayden, vice president, New Orleans Steamship Association, to give a very brief statement.

Mr. HAYDEN. Good morning, Senator Johnston, Senator Cochran, Senator Breaux. I have submitted my written testimony and ask that it be included in the record. Today I would like to just spend a few minutes underscoring what Jacques has said about the problems down in Southwest Pass. He has mentioned that there has been a vessel aground. The vessel has been aground for about 2 weeks now. She went aground on March 20. At this point she has spent about $1 million trying to get off, and she is not yet off.

We have not had time to accumulate all these statistics, so I can just tell you little incidents.

In addition to that, we have another vessel that loaded to go out at 45 feet. That vessel has been sitting at anchorage now waiting for this vessel to get off so she can go out. Unfortunately, what is happening is that the situation is not improving, it is getting worse.

The vessel is trapped in the river with 45 feet waiting to go out. We are down to 40 feet right now. That is the recommended draft. There is a possibility it is going to drop again. The vessel is sitting at anchor. I do not think it is unreasonable to expect that they have wasted about $0.5 million.

So just between the two vessels that I have mentioned this morning, we have about $1.5 million tied up in losses during this last 2-week period. When we have problems down there, we have big

problems, catastrophic as Jacques mentioned, and they run into money very quickly.

We have talked with the Corps about some preliminary plans, perhaps some advanced maintenance dredging, perhaps the dredging of what they refer to as a silt trap on the west side of the channel. That would accumulate the silt on the outside of the channel rather than the inside of the channel.

Unfortunately, I am up here at a bad time because you all are short money and I need to ask you for about another $5 million over what we have asked in our requests, if that little amount will take care of the problem.

At this point I think we are all worried that the real thing that happened to us is that nature walked up and ambushed us. Not only are we trying to figure out how to literally dig our way out of the current problem but also what we are going to do in the future to make sure that it does not happen again.

Any help that you all can give us in terms of additional funding for advanced maintenance stretching or the other things that the Corps may think is necessary to prevent this problem would be greatly appreciated.

Thank you very much for your time, gentlemen.

Senator JOHNSTON. Thank you very much. We will be in touch with the Chief of the Corps of Engineers on that immediately.

Mr. HAAR. Thank you very much, Mr. Chairman. I also want to thank your colleagues for all their good help and your staff. Both the subcommittee and your personal staff have certainly very responsive and helpful over the years, and we appreciate it very much.

Senator JOHNSTON. Thank you very much, Colonel Haar.

[The statement follows:]

STATEMENT OF CHANNING HAYDEN

My name is Channing Hayden. I am Vice President of the New Orleans Steamship Association. Our membership of some 56 steamship owners, operators, agents and stevedores on the Lower Mississippi River is associated with hundreds of ship owners in international commerce.

My testimony concerns projects essential to the future of international commerce on the Lower Mississippi River from Baton Rouge to the Gulf. These projects, listed below, impact the nation in jobs and our ability to compete in world markets. They should be funded as noted in our summary.

1. Completion of mitigation features for the first phase of the Forty-Five Foot Channel for Lower Mississippi River as well as to initiate the second phase when necessary.

2. Channel stabilization and maintenance dredging of Southwest Pass. Maintenance dredging of the Mississippi River from Baton Rouge to the Gulf.

3. Maintenance dredging of the Mississippi River-Gulf Outlet.

4. Continuation of the Design Program of the Mississippi River-Gulf Outlet New Ship Lock and continuation of the Outlet's erosion study.

5. The continuation of the Red River Waterway project (Mississippi River to Shreveport, LA).

Channel stabilization along with maintenance dredging of Southwest Pass is vital in keeping project draft. Project draft, in turn, ensures that the Mississippi River's deep water ports will continue to handle the country's foreign waterborne commerce in the most cost effective way possible.

For years we have urged this committee to provide funds to maintain project draft at Southwest Pass. You have responded and the resulting benefits have proven the wisdom of your action not only for our area but the entire hinterland served by the Mississippi River System. History shows that Southwest Pass throughout the 70s was greatly restricted. From 1970 to 1975 the channel was restricted 46% of the time. In 1973 and 1974 the channel was below the 40-foot project draft 70% of the time. These restrictions were more than just one or two feet. There were periods when we were limited to draft of 33 and 31 feet. Fortunately, those times have not reoccurred. This can be credited to a combination of factors--your help, the constant vigilance of the Pilots, the Corps, and the maritime community, along with work for the new 45-foot project. Since 1980 we have operated at or above the project draft more often than not. The funding you have provided was money well spent because it accomplished our goal. But we must continue the funding for two reasons.

First, we have to maintain what has been achieved. The Pilots have taken advantage of tidal flows and other factors, which include the past years' construction work, to recommend the maximum draft possible consistent with navigational safety. This is reflected in the pilots' draft recommendation which gradually increased to 46 feet for vessels under 100,000 DWT and 45 feet for vessels 100,000 DWT; 5 to 6 feet over the old 40-foot project draft. Four feet (48 inches) to a large vessel with a loading capacity of 250 tons per inch means an additional 12,000 tons of cargo. At a freight rate of $15 per ton, this would be a $180,000 increase in revenue. This is what keeps the Lower Mississippi River ports competitive.

We have operated at or over the old 40-foot project for the past 3 years and last year have seen the bright prospects of the new 45-foot project. The Corps has been instrumental in this success. The repairs to the jetties and dikes and their fast response to shoaling prevented the channel from deteriorating below project. It has allowed a quick recovery to project dimensions when the channel did deteriorate.

However, we are now experiencing heavy shoaling. Since mid-February we have had some fluctuation between 43 and 45 feet in the draft at Pilottown. While the restrictions have not been as severe as in the past, it has reduced cargo capacity and delayed vessels of all sizes in arrivals and departures. No precise figures have been compiled because the problem is ongoing, however, an estimate can be made.

The daily operating cost of a vessel is between $15,000 and $20,000, depending on the size and type of ship. A very conservative estimate of the cost of lost revenue and added expenses for the past 40 days based on one ship per day losing one foot of draft and incurring one day's delay is over $2.5 million. The funds we are requesting for maintenance dredging and other works are essential for the Corps of Engineers to maintain a reliable channel. Our estimate is based on one ship. The Corps' entire FY 90 budget has a positive cost benefit ratio based on 18 ships so affected in that 40-day period.

Secondly, the deeper the channel the more important is channel stabilization. By ensuring adequate channel stabilization work the maintenance cost of the deeper channel is minimized. If reoccurring maintenance dredging can be minimized by investing in this work, then the investment is cost effective. The quicker the new 45-foot project is maintained with completed stabilization, the quicker the benefits of reduced O&M cost will be realized.

Funds are also needed to have dustpan dredges available to dredge the crossings above the city of New Orleans. These crossings control the draft limitation to 8 of the 10 area major grain elevators. This area is predominantly bulk trade which must have stable channel depth that coincides with the depth at Southwest Pass.

This is why we have requested $3.0 million for the mitigation features of the new 45-foot project as well as the $44.65 million for maintenance dredging of Southwest Pass, Mississippi River, Baton Rouge to the Gulf.

The second phase of this project would give Louisiana a 45-foot deep channel into the Port of Baton Rouge. This would eliminate the need for different loading criteria for the Louisiana ports on the Lower Mississippi River. Because of the importance of this matter the state of Louisiana, even with its budget crunch, is presently seeking funding in order to complete the Local Cost Sharing Agreement with the Corps of Engineers for this second phase. Therefore, we strongly recommend that the Corps be given the funds needed to initiate the second phase of the project so delays are avoided when the state's share is available.

The growth of the Port of New Orleans depends, in large measure, on the Port's container and ro-ro facilities, and the Bulk Handling Plant, among others, located on the Mississippi River-Gulf Outlet. In the late 70s we averaged some 1,260 deep draft transits annually. In the early 80s we averaged 1,500 annually, a 19% increase. In the last few years we averaged 16% increase in deep draft transits.

This channel has been severely restricted in depth and in width. The funds you have provided has allowed the Corps to improve the channel considerably. Despite the Corps' best efforts, the channel width is still limited primarily because of erosion. This seaway has a project depth of 36 feet. Still for safety reasons on this narrow channel, restrictions apply to vessels with a draft of 30 feet or more. Such vessels cannot meet or pass in certain areas of this channel causing delays to the tightly scheduled container vessels using the Mississippi River-Gulf Outlet. The specialty vessels serving the port's facilities are becoming larger. This channel, with less than stable full project dimensions will cause problems for these larger vessels, reducing our ability to grow with the trade.

To improve safety on this channel, we request that the Congress appropriate $6.1 million, along with added funds should a greater Corps capability exist for the Mississippi River-Gulf Outlet. In addition, to further reduce or eliminate transit restrictions and delays, funds should be appropriated to dredge and maintain a holding area or areas so large ships can transit without closing the channel to other vessel traffic.

The container terminals and the Public Bulk Terminal are located on the Mississippi River-Gulf Outlet. Grain, other bulk facilities, and the general cargo wharves are located on the Mississippi River. An adequate route between the Mississippi River-Gulf Outlet and the river is essential for efficient transit between these facilities. The shortest route is an inefficient, antiquated lock built in the 1920's with a width of 75 feet and limited to a depth of 30 feet. Its maximum capacity has long been exceeded. The average waiting time for passage through the lock has increased from 8-1/2 hours in 1985 to about 12 hours at present; however, I am personally aware of waiting time of as much as 40 hours in some instances.

A much larger ship lock is necessary to accommodate the size of today's large vessels. We urge that Congress provide the requested $600,000 for this project. This is important if the reevaluation of this project is to be completed soon. Any delays are unthinkable since the new

lock is long overdue. Further we urge the construction funding of $670,000 for the continued study of the erosion in this vital navigation channel to our ports. A solution to this matter will enhance port operations and efficiency as well as safety.

The Red River Waterway, Mississippi River to Shreveport, Louisiana, Project is directly related to our Port. The continuation and completion of this work still stimulate the economy all along the Red River basin with jobs and additional international trade. This stimulated trade will service the port of Shreveport and the ports on the Lower Mississippi River, providing needed growth and benefitting the states of Louisiana, Texas, Oklahoma, and Arkansas, which are served through the Shreveport distribution center. We urge that the budget of $97 million necessary for this project be appropriated as well as an additional $2.3 million to meet the Corps' full capability.

I appreciate the opportunity to appear before you today. Thank you.

1. Forty-Five Foot Channel for Lower Mississippi River.

   We recommend that the Corps be appropriated the proposed $3 million for mitigation features for salt water intrusion to complete the first phase of this project. We also recommend that funding be available to initiate the second phase of this project which is 45 feet to the Port of Baton Rouge.

2. Channel Stabilization and Maintenance Dredging of Southwest Pass and Maintenance Dredging of the Mississippi River from Baton Rouge to the Gulf.

   The Lower Mississippi River ports, from the Gulf to Baton Rouge, rank as a leading World Port area. The proposed budget for FY 90 is $44.65 million for Operation and Maintenance, General, Mississippi River, Baton Rouge to the Gulf and Southwest Pass including the necessary channel stabilization. We urge the approval of the $44.65 million and that this fund be increased if a greater capability exists.

3. The Mississippi River-Gulf Outlet Maintenance Dredging.

   Located on this waterway are the Port of New Orleans' Bulk Handling Plant, most of the Port's container facilities, the ro-ro terminal and additional facilities under construction which provide newer cargo handling methods to accommodate the larger ships now serving international trade. It is recommended that the full $6.1 million be appropriated for Mississippi River-Gulf Outlet, Operation and Maintenance, General as well as the $2.16 million for repair of this channel's South Pass. We encourage approval of added funds should a greater Corps capability exist. A holding area for ships is also needed.

4. The Mississippi River-Gulf Outlet, New Ship Lock.

   The planning and design for the urgently needed New Ship Lock continues. This lock, once in operation, will relieve existing hazardous congestion and costly delays to foreign commerce. It will promote the economic growth and development of water-oriented industries along the Mississippi River and the Mississippi River-Gulf Outlet, thus promoting the future growth of the Port area of New Orleans. It is urged that the Congress provide the $600,000 proposed for the continuance of the lock design and related matters, as well as the $670,000 to continue the study of the erosion in the MR-GO.

5. The Red River Waterway, Mississippi River to Shreveport, Louisiana.

   We urge that the budget of $99.3 million which is necessary for the continuation of the project be approved. It will improve the economic situation of Louisiana, along the Red River Basin, and benefit the port of Shreveport and the ports on the Lower Mississippi River. The benefit comes from providing a direct water link between Shreveport, a major distribution center serving Louisiana, Texas, Oklahoma, and Arkansas, and the ports of Plaquemines, New Orleans, South Louisiana and Baton Rouge.

TENNESSEE AND TOMBIGBEE WATERWAY

STATEMENT OF DONALD G. WALDON, ADMINISTRATOR, TENNESSEE-TOMBIGBEE WATERWAY DEVELOPMENT AUTHORITY

ACCOMPANIED BY DAVID McANELLY, CHIEF OF STAFF FOR GOVERNOR WILKINSON

Senator JOHNSTON. Next we have the Tennessee-Tombigbee Water Development Authority.

Ladies and gentlemen, I'm sorry, but we are an hour and 10 minutes behind?

Mr. WALDON. We will be very, very brief.

On behalf of the Tenn-Tom Water Authority, we want to thank you for the opportunity to appear before you today. I want to especially thank you and my Senator, Senator Cochran, for the personal leadership and support you have given to the completion of the Tenn-Tom. I will echo what the gentleman from the Red River Waterway said. If it was not for you two, we certainly would not be here today talking about the benefits of the Tenn-Tom.

Joining me at the table is David McAnelly, who is the Chief of Staff for Governor Wallace Wilkinson, who is the chairman of the authority this year; and also Mr. Z. Enix, the Vice Chairman from Murray, KY, who will highlight our statement, which we would like to request that it be printed as part of the record.

Mr. ENIX.

STATEMENT OF F.C. ENIX, VICE CHAIRMAN, TENNESSEE-TOMBIGBEE WATERWAY DEVELOPMENT AUTHORITY

Mr. ENIX. Thank you, Mr. Waldon.

Mr. Chairman, I am Z. C. Enix from Murray, Ky. I have the honor of serving as vice chairman of the Tennessee-Tombigbee Waterway Authority this year. On behalf of Governor Wallace Wilkinson, our chairman of the Authority who could not be here today because of pressing State business, I would like to make his statement, if I may.

Mr. Chairman, other distinguished members of this committee. Thank you for permitting the authority to appear before you today in support of the Tennessee-Tombigbee Waterway and other projects and programs within your jurisdiction.

Joining me today are members of the authority representing five States in the compact. In the interest of time I will not introduce each member; however, I would like to ask them to stand to be recognized and request that their names be included as attending the hearing. [Applause.]

The authority is pleased to report to you today that Tennessee-Tombigbee Waterway has already generated substantial benefits to the nation although it has been in operation for only 4 years. Complex transportation systems such as the Tenn-Tom that serve large geographic areas require several years to reach maturity in terms of use and impact.

I am happy to report 1988 was a banner year for the authority. Commerce exceeded 9.9 million tons, more than twice the amount for the previous year. Much of the additional tonnage can be attributed to the traffic diverted to the Tenn-Tom from the Mississippi River during last summer's drought.

However, commercial shipments last year would have been at a record high even in the absence of the drought-related projects.

REGIONAL ECONOMIC DEVELOPMENT BENEFITS

Although regional economic development is not included in the traditional calculation of benefit to cost ratio for the water projects, it is, nevertheless, a real impact on the waterway.

Last year alone, over $1.1 billion of investments, new and expanded industries along the Tenn-Tom were announced. While much progress has been accomplished, there are some counties within the Tenn-Tom corridor that have not yet enjoyed the economic opportunities offered the waterway. These pockets of economic stagnation are generally rural areas with high unemployment, low personal income, and limited assets or resources for attracting growth.

The States of Alabama, Mississippi, Kentucky, and Tennessee have joined the authority to initiate an economic development strategy for these counties. This unique approach to regional development will focus on helping some 50 counties in four States to improve their economic being.

Those economically deprived areas traversed by the waterway and other similar regions are very much dependent upon Federal assistance in a stimulated economic growth. We, therefore, respectfully request that this committee continue funding the TVA and ARC development programs at or above this year's level.

It is also important to rural development throughout the Nation that the Federal progress such as the Economic Development Administration be continued. It would be penny wise and pound foolish to terminate programs such as EDA and UDAG that have proven track records of fostering economic growth.

There are other projects under your jurisdiction that are important to Tenn-Tom and the entire inland waterway system. We request that the construction of the new Oliver Lock on the Warrior-Tombigbee system be funded at the requested budget level.

The deepening of the channel serving the Alabama State docks at Mobile to 45 feet is of vital importance to coal producers in Kentucky and Tennessee to compete for overseas markets. The authority requests that $2.2 million be appropriated to complete the dredging of the channel by December 1989.

One of the most deteriorated navigation systems throughout the United States are the aging three locks on the upper Tennessee River. These structures are over 50 years old and their lock chambers will only accommodate one barge. It is estimated that an additional 3.2 million tons of commerce could be shipped from the region to markets by way of the Tenn-Tom if these locks were modernized.

It is requested that $1.5 million be included in the TVA budget for replacement of these locks and sufficient funds be provided to the court to complete the necessary feasibility studies for a new lock at Chicamauga Dam near Chattanooga, TN, so that design and construction can be initiated by fiscal year 1993.

On behalf of the entire region represented here today by the authority, we want to thank you for the support you have given to

the Tenn-Tom Waterway. Visionaries such as you that have developed the waterway and related land resources will assure that the Nation continues to grow and prosper.

On behalf of the five-State compact, again I would like to thank you for the opportunity to appear before you.

Mr. WALDON. Mr. Chairman, that completes our testimony.

As you know, Senator Stennis now resides not literally on the banks of the Tenn-Tom, but certainly within the Tenn-Tom corridor, and he extends his best wishes to all of you.

Senator JOHNSTON. Please give him our best. He is the real inspiration for the Tenn-Tom I know for Senator Cochran and for me as well. So we are glad to hear it is doing very well.

Mr. WALDON. Thank you.

Senator COCHRAN. Mr. Chairman, could I just simply thank everyone who is here representing the Tennessee-Tombigbee Development Authority. They are doing a wonderful job trying to attract industry and economic development into this area that so desperately needs the benefits of the waterway and the people who live and work in that region. They are doing a good job, and I want the record to show that. We are indebted to them for their public service.

Senator JOHNSTON. Thank you, Senator Cochran.

Thank you, gentlemen.

[The statement follows:]

STATEMENT OF Z.C. ENIX

Mr. Chairman, I am Z. C. Enix of Murray, KY. I have the honor of serving as Vice-Chairman of the Tennessee-Tombigbee Waterway Development Authority this year.

On behalf of Governor Wallace Wilkinson, Chairman of the Authority, who could not be here today because of pressing State business, I would like to make his statement if I may.

Mr. Chairman and other distinguished members of this committee, thank you for permitting the Authority to appear before you today in support of the Tennessee-Tombigbee Waterway and other projects and programs within your jurisdiction.

Joining me today are members of the Authority representing the five states in the compact. In the interest of time, I will not introduce each member. However, I would like to ask them to stand to be recognized and request that their names be included as attending the hearing.

The Authority is pleased to report to you today that the Tennessee-Tombigbee is already generating substantial benefits to the nation although it has only been in operation for four years.

Complex transportation systems, such as the Tenn-Tom, that serve large geographic areas require several years to reach maturity in terms of use and impact. 1988, however, was a banner year for the waterway.

Commerce exceeded 9.9 million tons, more than twice that amount for the previous year. Much of the additional tonnage can be attributed to the traffic diverted to the Tenn-Tom from the Mississippi River during last summer's drought. However, commercial shipments last year would still have been at a record high even in absence of the drought-related traffic.

The Tenn-Tom received national recognition as a viable route between the deepwater ports along the Gulf and mid-America during last summer's drought. Although the Tenn-Tom region also suffered from lack of rainfall, the waterway was able to maintain normal navigation conditions because of the system of controlled lake levels. Just as important to shipping, the Tennessee River with its system of regulated reservoirs continued to operate at normal levels. The importance of the TVA system came to light last year when the Tennessee River was able to provide a guaranteed flow of 18,000 cubic feet per second to the lower Mississippi that resulted in a 3-foot stage increase at Cairo, IL. Without the releases from the TVA reservoirs, it would not have likely been possible for the Corps to maintain any navigation on the Lower Mississippi River last summer.

Many heavy manufacturing plants in the midwest publicly stated that had the Tenn-Tom not been available during the drought for receipt of shipments of essential raw materials, these plants would likely have shut down operations. A termination of these continuously operated plants would have cost the companies millions of dollars in startup costs, loss of production, and layoffs.

Companies are also discovering the benefits of using the slack water system of Tenn-Tom for movements of northbound commerce. Monsanto announced last spring that it was saving more than $1 million in transportation costs by shipping chemicals to its plant at Decatur, Al. via the Tenn-Tom instead of the traditional route up the Mississippi River.

Scott Paper Company estimates it is saving $25 million annually in the cost of wood fiber shipped from the Tenn-Tom region by barge to its plant in Mobile.

Such savings enable these companies and others to increase productivity and thus become more competitive for shrinking markets overseas.

The Tenn-Tom has also opened up new foreign trade opportunities. For examples, Weyerhaeuser and Scott are now exporting wood chips to Japan. Bentonite is shipped to Malaysia from Aberdeen, MS. These markets were unreachable prior to opening of Tenn-Tom.

Recreation and tourism have greatly exceeded earlier projections with over 5 million visitors flocking to the waterway each year. These project-related activities have not only improved the quality of life for those within the Tenn-Tom corridor but also have generated a myriad of new business opportunities.

Prior to its completion, there were a few environmental groups that alleged the waterway would be detrimental to the environment. The Corps of Engineers did an outstanding job of building the waterway in an environmentally sound manner. Moreover, the waterway has been operated and maintained in a manner that has actually enhanced the environmental quality of the area.

There are more signs of wildlife than ever before. Sport fishing is touted as some of the best in the nation. Recently, a fisherman caught two largemouth bass that weighed over 30 pounds, which some claim as a record stringer for two bass.

Although regional economic development is not included in the traditional calculations of benefit-to-cost ratio for water projects, it is nevertheless a real impact of waterways.

Last year, alone, over $1.1 billion of investments in new and expanded industries along the Tenn-Tom were announced.

While much progress has been accomplished, there are some counties within the Tenn-Tom Corridor that have not yet enjoyed the economic opportunities offered by the waterway. These pockets of economic stagnation are generally rural areas with high unemployment, low personal income, and limited assets or resources for attracting growth.

The states of Alabama, Mississippi, Kentucky and Tennessee have joined the Authority to initiate an economic development strategy for these counties. This unique approach to regional development will focus on helping some 50 counties in four states improve their economic well being.

Those economically deprived areas traversed by the waterway and other similar regions are very much dependent upon Federal assistance in stimulating economic growth. We, therefore, respectfully request that this committee continue funding the TVA and ARC development programs at or above this year's level.

It is also important to rural development throughout the Nation that other Federal programs such as the Economic Development Administration be continued. It would be penny wise and pound foolish to terminate programs such as EDA and UDAG that have proven track records of fostering economic growth.

There are other projects under your jurisdiction that are important to Tenn-Tom and the entire inland waterway system. We request that the construction of the new Oliver lock on the Warrior-Tombigbee system be funded at the requested budget level.

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One of the most deteriorated navigation systems throughout the U. S. are the aging three locks on the upper Tennessee River. These structures are over 50 years old and their lock chambers will only accommodate one barge. It is estimated that an additional 3.2 million tons of commerce could be shipped from that region to markets via the Tenn-Tom if these locks are modernized.

It is requested that $1.5 million be included in the TVA budget for replacement of these locks and sufficient funds provided to the Corps to complete the necessary feasibility studies for a new lock at Chicamauga Dam near Chattanooga, TN. so that design and construction can be initiated by FY 1993.

On behalf of the entire region represented here today by the Authority, we want to thank you for the support you have given to the Tenn-Tom Waterway. Visionaries, such as you, that have developed our water and related land resources will ensure that the Nation continues to grow and prosper.

Thank you again.

SUMMARY OF REQUEST

	Program/Project	Request
1.	U. S. Corps of Engineers Operations and Maintenance	
	A. Tennessee-Tombigbee Waterway	$18.2 million
2.	U. S. Corps of Engineers Construction, General	
	A. Oliver Lock, Alabama	$25.0 million
	B. Mobile Harbor	$ 2.2 million
3.	U. S. Corps of Engineers General Investigations	
	A. Replacement of Upper Tennessee River Locks	Capability funding levels.
4.	Tennessee Valley Authority	
	A. Economic and Community Development programs	Funded at or above FY 89 level.
	B. Replacement of Upper Tennessee River Locks	$ 1.5 million
5.	Appalachian Regional Commission	
	A. Economic and Community Development program	Funded at or above FY 1989 level.

PREPARED STATEMENT FOR THE RECORD

Senator JOHNSTON. Finally, we have Robert Weir with the Tombigbee River Valley Water Management District.

[No response.]

Senator JOHNSTON. We will put his statement in the record.

[The statement follows:]

STATEMENT OF ROBERT S. WEIR, EXECUTIVE DIRECTOR, TOMBIGBEE RIVER VALLEY WATER MANAGEMENT DISTRICT

The Tombigbee River Valley Water Management District was created for the purpose of developing and conserving the human and natural resources of our region of Mississippi. We represent twelve member counties located in Northeast Mississippi consisting of approximately 350,000 people; however, our projects may benefit a larger area and a considerable larger population.

Our agency has proudly served as the official sponsor to the U.S. Corps of Engineers in the construction of the Tennessee-Tombigbee Waterway. We consider this Waterway a masterpiece of technology that was performed by the Corps. We continue to salute the Corps for a job well done.

Tombigbee River Valley Water Management District has also proudly served in the sponsorship of a great number of flood control projects and other water related projects that have resulted in considerable benefit to our area of the country.

Our goals are to continue addressing and resolving the needs of the people of our area. These benefits can become reality by assisting our farmers, landowners, and timber farmers in controlling damages to their lands through some type of water management program.

Many of our residences and businesses are experiencing such burdens of risk from uncontrolled flood waters, land erosions, soil deterioration, not mentioning, property damage.

We must allow our people to operate under free enterprise and support them through extending some relief by reducing their burden of risk that may confront them.

One crucial needed project is the Luxapalila, a tributary of the Tombigbee River. Luxapalila originates in Alabama and flows through the metropolitan area of Columbus, Mississippi before emptying into the Tombigbee River. During flood season, many homes and businesses experience flooding which result in considerable damage to property. The risk of flooding creates additional expenses for all involved such as a loss of business, high premium for insurance coverage, loss of productivity and reduction of value to land.

The Corps and our agency have invested time, effort, and expense in studying this problem. All studies have revealed that this project is very feasible.

I hereby request that adequate appropriation be made for the implementation of the Luxapalila Project.

A comprehensive water resource plan must be implemented to give relief to flood and drainage problems and soil erosion to agriculture and timber lands in the area. These problems must be addressed through snagging and channelization of tributaries and watershed projects developed to curb problems created by rivers and creeks in the area that deprive our farmers of a considerable amount of farm land that could be utilized and benefit people throughout our nation and world.

As we prepare for the future, we feel that such a comprehensive water management plan will not only be a relief to our farmers and landowners, but we can also utilize the surface water as a solution for our water source for our residents and industry. The results of several studies addressing tne supply of our ground water indicate a crucial concern for potential industries in their consideration of locating or expanding in this area along with a similar concern by our residents of what the future may hold regarding this necessary commodity.

There is a need to convert our rainfall in this area into an asset through a retention program. Our ground water aquifers are decreasing at an alarming rate due to population and industrial growth. It is important that we continue to devote our efforts toward the conservation of our lands and natural resources.

Water supply should also be considered within proposed water projects by the U.S. Corps of Engineers. Any type of structure constructed whether it be for flood control, navigation, recreation, or other needs to also include the potential for a water supply source.

We further feel that these necessary projects can only be accomplished with the continuing assistance of the U.S. Army Corps of Engineers and the U.S. Soil Conservation Service through the U.S. Department of Agriculture along with numerous state and federal agencies. We recommend that funding for the full capabilities of these agencies be approved in order that we may continue to address these needs. Such request is made in reference to the following authority: The Committee on Public Works and Transportation of the House of Representatives, United States, adopted a resolution on September 19, 1984 that authorized and directed the Secretary of Agriculture and the U.S. Army Corps of Engineers to make joint investigations and surveys of the Tombigbee River Basin, Mississippi and Alabama, and Tuscumbia River Basin, Mississippi. A report that will be prepared and submitted to the Committee in compliance with the provisions of Public Law 639, Eighty-Seventh Congress, will contain the investigation and survey results which are in the best interest of flood prevention and control, soil erosion and siltation control, water quality control, water supply, recreation, fish and wildlife, environmental quality, watershed protection and allied purposes.

It is also to be noted that the cost sharing required by Congress may jeopardize this area in fulfilling many of the most needed water resource projects. Congress' consideration of the cost sharing requirement is hereby requested.

As sponsor for many water resource projects through the years, Tombigbee River Valley Water Management District has financially participated and is willing to continue to do so within its limitations. However, we do feel that some projects may be prohibited due to our inability to cost share the amount now required.

Tombigbee River Valley Water Management District remains dedicated in the promotion of the Tennessee-Tombigbee Waterway to its greatest potential. Your support along with your foresight has played a vital role toward not only the future of our area, but for Mid-America and for this we are grateful.

ADDITIONAL PREPARED STATEMENT SUBMITTED FOR THE RECORD

Senator JOHNSTON. The subcommittee has also received a statement from Congressman Jaime Fuster of Puerto Rico which covers several projects of interest to him.

[The statement follows:]

LETTER FROM DELEGATE JAMIE B. FUSTER

April 21, 1989

Hon. J. Bennett Johnston
Chairman
Subcommittee on Energy and Water Development
131 Dirksen Senate Office Building
Washington, D. C. 20510-6025

Dear Senator Johnston:

As your Subcommittee prepares to receive testimony on May 3rd from the Army Corps of Engineers, I hope you will keep in mind the attached statement which details the water projects we support and need in Puerto Rico.

Currently there are several very important projects the Army Corps of Engineers has pending in Puerto Rico. The Commonwealth government is very anxious to see the Puerto Nuevo flood control project and Portugues-Bucanà project completed but all the others are of vital importance to our flood-prone island.

I urge your support for these projects.

With kindest regards, I am

Sincerely,

Jaime B. Fuster

Jaime B. Fuster
Member of Congress

STATEMENT OF DELEGATE JAMIE B. FUSTER

Mr. Chairman and members of this distinguished subcomittee, I appear before you today on behalf of the 3.5 million American citizens living in Puerto Rico, to set forth the Fiscal Year 1990 funding requirements for the various studies and projects undertaken by the U.S. Army Corps of Engineers in Puerto Rico.

We hope to obtain Congressional support to allocate the necessary funding for some vital water and navigation projects whose construction has already started and needs

to be completed. The Corpos of Engineers has included them in their Fiscal Year 1990 Civil Works Budget Request:

Arecibo River	$ 100,000.00
Guayanilla River Basin	130,000.00
Portugues and Bucana Rivers	18,800,000.00
Rio de la Plata	700,000.00
Rio Nigua	150,000.00
Rio Puerto Nuevo	1,300,000.00
San Juan Harbor	500,000.00
Guayanes, Las Mareas & Guayanilla Harbors	135,000.00

The Puerto Nuevo flood control project is of great concern to Puerto Rico since the river cuts through the heart of metropolitan San Juan's commercial and financial districts, flooding these areas on a regular basis and causing millions of dollars in damages. Nearly 6,000 families are affected. The main nucleus of federal and local government facilities on the Island, as well as the major transportation networks for San Juan, are severely affected. The General Post Office, the National Guard Armory, the Coliseum, and the Police Department Headquarters, are all located in the basin of the Rio Puerto Nuevo, and all suffer equally from the frequency and regularity with which this river overflows its banks. Requested funds will continue the preconstruction engineering and design now scheduled for completion in June 1991.

The Portugues-Bucana project was authorized under the Flood Control Act of December 30, 1970. The project provides flood control to central Puerto Rico through the construction of two high level dams with reservoirs- one on the Portugues River, and the other on the Cerillos River. The two dams will store water for flood control, water supply and recreation. Additionally, the project will

provide for enlargement of the Portugues and Bucana Rivers and a 1.3 mile diversion channel connecting the Portugues River to the lower Bucana River. The project will essentially provide flood protection and a dependable water supply of about 33.8 million gallons per day to the city of Ponce and environs, on the South coast. The concrete and stone lined channel works are essentially complete but need additional funds.

The San Juan Harbor dredging study is of critical importance to Puerto Rico. Almost 80% of all cargo entering or leaving Puerto Rico goes through the Port of San Juan. It will require deepening the Bar Channel and shifting its alignment 350 feet to the West. The cost is well worth it because this harbor is the most important American-flag port in the Caribbean and plays a key role in the nation's defense.

There are several other pending and/or ongoing projects in Puerto Rico. The Rio Arecibo basin has historically been subject to large scale, destructive flooding. This flooding has resulted in extensive property damage, and has caused severe disruption of transportation, communications and socioeconomic activities. Another study is the Rio Nigua project. The river's flood plain encompasses the entire town of Salinas and several adjacent settlements, as well as the southern section of Camp Santiago, a Puerto Rico National Guard training facility. Flooding affects about 200 acres of developed land, and over 800 families, and periodically results in damages in excess of $2 million.

The La Plata River project is another flood control project. Approximately 12,000 families are affected by the

regular overflow of the La Plata River. Finally, the Rio Nigua and Guayanes, Port Las Mareas, and Guayanilla Harbors navigation reconnaissance studies will determine the need for further analysis of existing channels and their maintenance with a view to possible improvements.

I wish to thank the Subcommittee for giving me the opportunity to apprise it of the needs and concerns of the citizens of Puerto Rico. The projects I have described will have a tremendous impact on Puerto Rico, its economy and its people.

OBION AND FORKED DEER RIVERS CHANNELIZATION

PREPARED STATEMENT FOR THE RECORD

Senator JOHNSTON. And a statement by Chester McConnell outlining some concerns with channelization along the Obion and Forked Deer Rivers in Tennessee will be incorporated in the record.

[The statement follows:]

STATEMENT OF CHESTER A. McCONNELL, RESEARCH CHAIRMAN, FARMER/CONSERVATION COALITION TO STOP CHANNELIZATION

I am Chester A. McConnell, Research Chairman of the Farmer/Conservation Coalition To Stop Channelization (F/CCTSC). The F/CCTSC is composed of farmers, forest owners, fishermen, hunters and other natural resource interest in Tennessee. The Coalition's efforts are dedicated to improved management of floodplains for compatible agriculture, forestry, streams, wetlands, fish and wildlife.

Our statement is in response to the Corps of Engineers' request for $1.4 million appropriations to channelize a 7.2 mile reach of the 225 mile channelization project on the Obion and Forked Deer Rivers, West Tennessee Tributaries (WTT) project. The primary reason and economic justification for the project is to drain wetlands for conversion to agricultural use.

We strongly oppose any funding that will be used for channelization in the highly erosive soils of the WTT project area. We recommend that the modern, environmentally sensitive Stream Obstruction Removal Guidelines method (see enclosed copy) be substituted for channelization as the method to restore normal river flows and provide drainage on existing agricultural lands. We will support funding for the WTT project if the Stream Obstruction Removal Guidelines (SORG) method is required.

Our recommendation is identical to that made to the Corps of Engineers by many federal and state agencies, landowners affected by the project and conservation organizations. It is the same recommendation made by the Tennessee Department of Health and Environment (TDHE). The TDHE has refused to issue a required Section 401 Water Quality Certification Permit for the same channelization that the Corps is now requesting the Congress to fund. The Certification Permit has been denied since June 1987 as explained later in this statement.

We urge the Congress to require the Corps to modify the WTT project in accordance with current national needs. When the project was authorized in 1948 national needs were much different. At that time more agricultural production was needed and many such projects were authorized to drain wetlands for conversion to agricultural lands. Today, however, the situation is much different.

As of 1987, the U.S. Department of Agriculture (USDA) reported a total of 91.5 million excessive acres removed from crop production (23 million acres in the Conservation Reserve Program and 68.5 million acres in set-aside programs). USDA experts project that, by the year 2030, a maximum of 196.2 million acres may have to be removed from commodity production.* Based on these facts, we believe it is unwise to destroy more of the rapidly declining wetland acreage for conversion to agricultural lands. Certainly this would create more economic hardships for the nation's farmers while destroying valuable natural resources. It will also require more billions of taxpayers dollars to pay for the increased surplus farm lands.

The F/CCTSC is striving to prevent additional channelization of the Obion and Forked Deer Rivers based on the large volume of information which proves that this practice is unsound in west Tennessee soils. Previous channelization in west Tennessee's highly erosive soils has resulted in excessive stream bank caving, severe erosion of lateral streams and ditches, loss of agricultural lands, water quality problems, wetland destruction and large-scale losses of fish and wildlife

resources. These severe problems have been documented in several federal government scientific studies.

The U.S. Geological Survey (USGS) published the results of its six year study entitled, "Man-Induced Channel Adjustments in Tennessee Streams" (1983) which revealed severe, long-term problems associated with the WTT channelization.* The study focused on west Tennessee streams and included an in-depth evaluation of the Corps' channelized reaches of the Obion and Forked Deer Rivers.

USGS scientists documented the drastic changes in these streams after channelization. The report explains that, "Channel modifications in Tennessee, particularly in the western part, have led to large-scale instabilities in the channelized rivers and may have led to several bridge failures." The report concludes that, "Stresses imposed on stream channels by channel modifications led to downcutting, headward erosion, downstream aggradation, accelerated scour, bank instabilities, and in some cases contributed to bridge failures."

The U.S. Fish and Wildlife Service published its Fish and Coordination Act Report on the WTT project in 1983.[2] This report documents massive losses of fish and wildlife resources, water quality problems and elimination of thousands of acres of valuable wetlands. According to the report, the total project would "...provide drainage for 118,000 acres (of floodplain lands) and permit development of 60,000 acres of woodlands for agricultural use by reducing the extent and duration of overflows, particularly during the crop season (USACE 1981:36)." This is certainly in contradiction with the President's pledge of "no net loss of wetlands". The Service's report explains, "We continue to believe that environmental trade-offs associated with your (Corps) recommended plan are unacceptable and that a less damaging plan of action should be pursued."

The U.S. Environmental Protection Agency has also requested the Corps to modify the project on several occasions. By letter to the Corps dated June 14, 1988, EPA stated, "We feel the use of selective clearing and snagging (SORG) which is recommended by the U.S. Fish and Wildlife Service, The Tennessee Wildlife Resources Agency, Tennessee Department of Conservation, environmental groups and even some landowners within the Obion-Forked Deer Basin, is a more environmentally acceptable alternative, and EPA will continue to work with your office to incorporate this alternative in these projects."*

Farmers and conservation groups have joined forces in an effort to improve the project. We believe this can be accomplished simply by substituting the "Stream Obstruction Removal Guidelines" (SORG) for channelization as the method of channel work. We urge that the Corps' appropriations request for $1.4 million to do more channelization on the WTT be denied. We respectfully request that any funding for the WTT project be earmarked for use only where the SORG method is used.

In addition to request for project modifications made by numerous farmers, federal and state agencies, conservation groups and numerous individuals, Tennessee's Governor McWherter has also voiced a desire for an "environmentally sound" project. In a letter concerning the WTT project from Governor McWherter to me dated February 29, 1988, the Governor explained:

> "If the necessary flood relief can be accomplished in an environmentally sound way, the project should go forward. Additionally and importantly, the side benefits of conservation, improving wildlife habitat, protection of

> hardwood forests and sound agricultural practices should be key elements with respect to the project's future. If these items cannot be accomplished the project should not go forward." * (emphasis added)

A major factor that the Congress should carefully consider is that a Section 401 Water Quality Permit, necessary to continue channelization, has been denied to the Corps by the State of Tennessee. No work can be continued without a permit. Under Tennessee law, the Certification Permit is required before the Corps can issue itself a 404 Dredge and Fill Permit.

The permit denial is addressed in a letter to Colonel Richardson, COE Memphis District from Kenneth Bunting, Director, Tennessee Division of Water Pollution Control dated May 27, 1988. This letter summarizes several negotiation meetings between the Corps and the Division concerning the Division's denial of the Section 401 Water Quality Certification for channelization of the Sidonia Item of the WTT. Mr Bunting's letter claimed that no channelization work was needed in the Sidonia reach of the South Fork Obion River. Bunting's letter pointed out that a U.S. Geological Survey study of the Sidonia Item supported the Division's position and that:

> "the data would also tend to contradict the Memphis Districts contention that any work at Sidonia is necessary" (emphasis added). *

Mr. Bunting's letter continues:

> "It is evident that a storm event much greater than the 1.05 year interval can be contained within the existing top bank." *

In other words, the Corps' proposed work at Sidonia is not even needed because the river is already larger than the project design of 1.05 called for in the Corps' General Design Memorandum. According to a U.S. Geological Survey report (prepared by USGS for the Division) the existing conditions for the Sidonia reach of the South Fork Obion River will currently contain the 1.20 year flood while the Corps' WTT plan only calls for containing the 1.05 year flood. The U.S. Geological Survey report claims:

> "the computations for existing conditions show that the present channel will carry about 6,000 cfs below Middle Fork and about 4,590 cfs above Middle Fork, based on channel cross sections surveyed in February and March, 1988. Based on the frequency curve for the Greenfield gauge, this is about 1.2 year recurrence interval." *

Another revealing source of information is the Memorandum for Record of a meeting on June 2, 1988 with the Corps and Tennessee Department of Health and Environment (TDHE). This memorandum quotes TDHE officials as claiming:

> "Due to these objections, the Tennessee Department of Health and Environment will have difficulty in providing water quality certification on the remaining unconstructed portions of the project as currently authorized and designed." *

In response to the Corps' question about project design changes necessary for TDHE officials to certify the WTT project, Mr. Bowers, TDHE stated that:

"modifying the channel improvement plans to 'Stream Obstruction Removal Guidelines' or a light touch clearing and snagging would allow the TDHE officials to certify the project under their current charge and laws." *

Another major factor that should be considered is that approximately 95 percent of the landowners with property adjoining the South Fork Obion and Middle Fork Obion Rivers within the WTT project area have signed "notification" forms advising the Corps that they will not provide easements necessary for continued channelization. These landowners are immediately upstream of the Sidonia reach where TDHE denied the Certification Permit. Previously, in 1986, the Corps was forced to abandon planned channelization at another location on the South Fork Forked Deer River (Fowlkes 1-2 Item) because landowners along that river also refused to provide required easements.

This summarizes the information that we respectfully urge the Subcommittee to consider. Our major point is that WTT project changes are desired and needed. Governor McWherter's letter identifies this need. The Governor's desire is enforced by the actions of officials in his administration. These officials denied the Section 401 Water Quality Certification Permit for channelization of the Sidonia reach of the South Fork Obion River in June 1987. After negotiations were completed, during almost a two years period, the Certification Permit is still denied. We believe this clearly reflects the Governor's desire.

We trust that this statement will identify a compelling need to modify the WTT project. It puzzles us that the Corps resists sound changes for this project based on current needs. There are better ways to provide the needed flood relief while protecting natural resources in the WTT project area. This can be accomplished with a saving of approximately $90 million of taxpayer money when considering the total uncompleted portion of the project.

We are puzzled about the Corps resistance to change on the WTT project because the Corps has used, and plans additional use, of the Stream Obstruction Removal Guidelines on several similar projects in the general area. The Corps' Memphis District has plans to use the Guidelines on the L'Anguille River, Bayou DeView, Cache River, Big Creek (all in Arkansas) and Mayfield Creek, Kentucky. And the Corps' Mobile District has already applied the Guidelines on the East Fork Tombigbee River in Mississippi with excellent results.* Therefore the Guidelines are not new to the Corps.

We will be glad to furnish copies of any of the letters, reports or other records mentioned in this statement as evidence if requested by the Committee. We appreciate the opportunity to provide this statement and to make recommendations for sound modifications to the WTT project.

STATEMENT OF JAMES WYATT PRIESTLEY

I am James Wyatt Priestley, a farmer. I farm 260 acres of my own land adjoining the Middle Fork Obion River and approximately 220 acres of leased land in other locations of the Obion-Forked Deer Basin. I and over 95 percent of people owning

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* - Copies of each of these letters/documents are available in our files.

farms adjoining the Middle Fork Obion and South Fork Obion Rivers in the West Tennessee Tributaries area are strongly opposed to any additional channelization by the Corps of Engineers.

The channelization that the Corps completed on downstream river reaches has caused me and other landowners many problems. After the Obion and South Fork Obion Rivers were channelized during the 1960's, the upstream reaches of the South Fork Obion and Middle Fork Obion began to erode severely. This is caused by a process known as headcutting which causes the upstream river bottoms to attempt to adjust to the deeper channelized depths of the rivers downstream. Then, as the upstream river reaches erode and become deeper, the river banks cave off. This process continues for about 20 or 25 years before it stabilizes according to a U.S. Geological Survey evaluation report concerning the West Tennessee Tributaries project.

The headcutting, river channel erosion and massive bank caving has caused the river flowing through my farm to greatly enlarge. Also, ditches and tributary streams that enter the rivers enlarge. One small ditch on my farm that I could step over at one time is now about ten feet wide and eight feet deep. The ditch continues to erode further through my uplands.

The channelization downstream has worked itself upstream through the headcutting process and caused the loss of part of my land adjoining the river. A section wide enough to grow about ten rows of corn has caved into the river on one side. On the other side much of my timber has caved into the river due to the severe bank erosion. Trees that fall into the river cause blockages that must be removed by landowners to protect their floodplain lands from frequent flooding. If you multiply the example on my farm hundreds of times, you will have a picture of the severe problems that the Corps' channelization is causing. The land being lost is gone forever and greatly overshadows the low level of flood relief that channelization is supposed to provide.

For many years I did not understand what was happening to cause the severe river bank erosion. Then, in 1983, the U.S. Geological Survey (Nashville) wrote a report named "Man-Induced Channel Adjustments In Tennessee Streams." This report explained the many problems being caused by the Corps of Engineers' channelization. In addition to destroying our farm land, the channelization even undermines bridge supports and causes bridges to collapse. Some people have lost their lives as a result.

Even though much of my farm land is in the floodplain area, I have never lost a crop. Practically all of the flooding takes place during the winter when few crops are planted. Even then the rivers do not stay out of bank for long periods in these upstream locations and there is little, if any, damage to fall planted crops such as wheat.

The Corps' plans call for a low level (1.05) of flood relief and was not designed to stop flooding. Instead the project's purpose is to cause flood waters to drain off the land more rapidly. So the flooding will continue even with the Corps' project. One only has to observe the completed portions of the project to see that flooding continues in the channelized areas. Landowners understand this and realize that farming in the floodplain includes risks. According to the Tennessee Department of Health and Environment, not one house, barn or business will get any further degree of flood protection from completion of the West Tennessee Tributaries channelization.

As mentioned before, over 95 percent of the landowners with land adjoining the Middle Fork and South Fork Obion Rivers are strongly opposed to any more channelization. Each of these landowners signed "Notification" forms advising the Corps of Engineers that: "We, the undersigned, hereby notify the Corps of Engineers and the Obion Forked Deer Basin Authority that we will not provide easements on our private lands in connection with the Corps' planned channelization of the Obion and Forked Deer Rivers and their tributaries" (see enclosures). All of these landowners are immediately upstream of the "Sidonia Item" where the Corps plans to channelize next. In addition to the "Notification" forms, many hundreds of citizens throughout west Tennessee have signed petitions or written letters opposing more channelization.

The Corps moved to our area because other landowners along the South Fork Forked Deer River also refused to provide required easements during 1986. In addition, the Tennessee Department of Health and Environment (in June 1987) refused to issue a Water Quality Certification Permit to the Corps for channelization of the "Sidonia Item" on the South Fork Obion River. The Department has also notified the Corps that it is unlikely that Certification Permits could be issued for channelization on any other rivers in the West Tennessee Tributaries project.

Because of all the severe, long-term problems associated with the Corps' work in the highly erosive soils of west Tennessee, I urge the Congress not to provide the $1.4 million requested by the Corps for additional channelization. However, there are some obstructions in the rivers that should be removed. If the Corps would change their West Tennessee Tributaries project to use only the "Stream Obstruction Removal Guidelines", in a strictly controlled manner, the river problems could be solved. These guidelines allow for site specific correction of problems and would restore normal river flows. Work, strictly following the guidelines is all that is needed.

The Memphis District Corps of Engineers has plans to use the Stream Obstruction Removal Guidelines on several nearby rivers. These are the L'Anguille River, Cache River, Bayou DeView, Big Creek (all in Arkansas) and Mayfield Creek, Kentucky. The Corps' Mobile District also used the guidelines to restore normal flow in the East Fork Tombigbee River, Mississippi. So, use of the guidelines is not new to the Corps.

We urge the Congress to require the Corps to use the Stream Obstruction Removal Guidelines as the only approved method of stream work to complete the West Tennessee Tributaries project. Careful use of the guidelines will restore the normal river flow and cause flood waters to drain from the floodplain as well as the planned channelization. Use of the guidelines will also stop the wholesale removal of trees from the river banks and prevent the massive river channel erosion and bank caving.

Farmers in the project area cannot believe that the Corps continues to try and force this unsound channelization project on us. Massive amounts of information have been developed in recent years by various government agencies and universities to prove just how foolish it is to channelize in the highly erosive soils of west Tennessee. Every farmer has learned that plowing up and down hill, especially in west Tennessee's erosive soils, creates severe erosion. In simple terms, channelization is nothing more than one large furrow going down hill. Yet the Corps seems not to care about the massive problems caused by their project.

I hope the U.S. Congress cares about our problems and will take action to force the Corps to substitute the Stream Obstruction Removal Guidelines for channelization in the West Tennessee Tributaries project. This can be done at a savings of approximately $90 million taxpayer dollars.

I appreciate the opportunity to provide this statement.

--- N O T I F I C A T I O N ---

We, the undersigned, hereby notify the Corps of Engineers and the Obion-Forked Deer Basin Authority that we will not provide easements on our private lands in connection with the Corps' planned channelization of the Obion and Forked Deer Rivers and their tributaries.

Name	Address
Barry Avon McWilliams	P.O. Box 97 Halls TN.
R L Lewis	Rutherford Tenn 38369
James W. Priestley	Greenfield Tenn 38230
Tracy Wolfe	Greenfield Tenn
Linda Taylor	Bradford Tn.
C Clyde Arnold	Bradford Tenn
Edward L. Stewart	Bradford Tenn
Paul R. Taylor	Bradford Tenn
Charles H. Stout	Greenfield Tenn.
Charles Yeargin	Greenfield, Tn.
C.C. Smith	Greenfield Tenn
Woodrow W. Moon	Dresden Tenn
Harry Badger	Dresden Tenn

Enclosure 1-a

--- NOTIFICATION ---

We, the undersigned, hereby notify the Corps of Engineers and the Obion-Forked Deer Basin Authority that we will not provide easements on our private lands in connection with the Corps' planned channelization of the Obion and Forked Deer Rivers and their tributaries.

Name	Address
Harris W Hall	Greenfield Tenn #2
Mrs H C Griffith	Greenfield, Tn Rt 2
Lorenzo Priestley	Rt 2 Box 5-1 Greenfield Tn 38230
J T Priestley	Greenfield Tn 38230
[illegible]	[illegible]
H C Griffith	Greenfield Tenn Rt 2
Billy H Davidson	Upper Tenn
[illegible] Harper	Trenton Tenn.
Dan F. Joyner	Trenton, Tn.
Bobby Robinson	[illegible] Lane
Robert Hearn (for Jerome Hearn)	Greenfield Tenn.
[illegible]	Trenton, Tenn

NOTIFICATION

We, the undersigned, hereby notify the Corps of Engineers and the Obion-Forked Deer Basin Authority that we will not provide easements on our private lands in connection with the Corps' planned channelization of the Obion and Forked Deer Rivers and their tributaries.

Name	Address
Nova Lee Chandler	Dresden, Tennessee
Jessie D. Bealton	Dresden, Tenn.
Kenneth C. Garner	Dresden, Tn.
Charles E Simmons	Sharon Tn.
Keith Roberts	Sharon, Tn
Hal Hunt	Sharon, Tn.
George Hunt	Sharon, Tenn.
Mrs. Kermit Cates	Bradford, Tenn.
Leonard Sellers	Bradford Tenn.
Tubbie Harrison	Bradford Tn.
Mary Cottrell	Greenfield, Tn.
	Carl Connell
W.C. Cothron	Sharon, Tn.

--- N O T I F I C A T I O N ---

We, the undersigned, hereby notify the Corps of Engineers and the Obion-Forked Deer Basin Authority that we will not provide easements on our private lands in connection with the Corps' planned channelization of the Obion and Forked Deer Rivers and their tributaries.

Name	Address
Mike Bryant	Rt 1 Bradford, Tenn.
Edith Hunter	Greenfield Tenn.
Lonnie Porch	Greenfield Tn
Jessie Mitchell	Route 1 Sharon, Tenn.
Virginia Capps	Rt 2 Greenfield, Tn.

--- NOTIFICATION ---

We, the undersigned, hereby notify the Corps of Engineers and the Obion-Forked Deer Basin Authority that we will not provide easements on our private lands in connection with the Corps' planned channelization of the Obion and Forked Deer Rivers and their tributaries.

Name	Address
Charles Keith Steele	PO Box 175 Idlewild TN 38339
Charles Jerry Steele	P O Box 214 Bradford, Tenn 38316
William A. Bullock	335 N. College St. Martin, Tenn 38237
Robert S. Cockroft	Box 429 McKenzie, TN 38201
Jewell Adkisson	Pond Hill Rd Rt 2 Dyer, Tn 38330
Rebecca Manuel	R. 2 Box 67 Greenfield, Tn
Bonnie L Boyd	Box 352 Sharon, TN 38255
Leon W. McRee	Rt #2 Box 252 Dexter, Mo.
Jimmy Morris	Rt 2 Brunsfield TN.
Morelle Lent Priestley	1460 Poplar Estate Parkway Germantown, Tenn 38138.
Theresa Higgins	1 mi. east of Kenton, Rt. 1 Box 79 Kenton, Tn 38233

--- N O T I F I C A T I O N ---

We, the undersigned, hereby notify the Corps of Engineers and the Obion-Forked Deer Basin Authority that we will not provide easements on our private lands in connection with the Corps' planned channelization of the Obion and Forked Deer Rivers and their tributaries.

Name	**Address**
Maureen C. Canson by Betty Clement, Attorney-in-fact	851 Northwood Drive
by Dorothy Porter, Attorney-in-fact	Huntingdon, Tennessee 38344
	125 Doty Lane, Huntingdon Tn. 38344
H. C. Griffith	Greenfield Tenn R2

SUBCOMMITTEE RECESS

Senator JOHNSTON. We will recess until 2 p.m.

[Whereupon, at 12:25 p.m., Tuesday, April 4, the subcommittee was recessed, to reconvene at 3 p.m., the same day.]

(AFTERNOON SESSION, 2:05 P.M., TUESDAY, APRIL 4, 1989)

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator HATFIELD [presiding]. The subcommittee will please come to order.

I want to welcome each of you to the hearing today and to express our appreciation for your willingness to make this trip and to help make the record before this subcommittee. There are a goodly number of witnesses here today who all wish to be heard and, therefore, we will have to exercise some self-restraint in accordance with the instructions that I believe were received from the staff of the committee so that everyone would hold their oral testimony to a minimum in order that all of you may be heard.

I ask that the detailed prepared statements that most of you have brought and worked on very carefully be submitted for the record, and they will be then used by the committee in making its recommendations for 1990. If the witnesses would then summarize or highlight the important points in their oral testimony, it would be most helpful.

Again, it is a pleasure to welcome you, and to lead off today it is a great honor to have our neighbors and colleagues north of Oregon, the Senators from the State of Washington, Senator Adams and Senator Gorton, who are accompanied here today by an oldtimer and a newtimer.

So gentlemen, if you wish to proceed we will be happy to hear your testimony and make the appropriate introductions as you will.

GRAYS HARBOR, WA, DEEPENING

STATEMENT OF HON. BROCK ADAMS, U.S. SENATOR FROM WASHINGTON

Senator ADAMS. Thank you very much, Mr. Chairman. It is a great pleasure to appear here with Mr. Muller and with Senator Gorton in support of this project. I appreciate the opportunity to speak to the committee about this project which is of great importance to the State of Washington, particularly to the Grays Harbor community.

I am pleased to be sitting here with the new executive director, Mr. Muller, and with the former executive director, Mr. Hank Soike, whom I have known for over 30 years, Mr. Chairman. I had the pleasure when I was in the House of Representatives of seeing him start this project, which was nearly 20 years ago. He has done an excellent job. The project is on the brink of construction, and I hope we can help it begin soon.

Now rather than taking the precious few minutes that we have with my remarks, I would prefer that there be an opportunity for Mr. Muller to testify so that you can ask him questions. I will submit my statement for the record, and I would ask, Mr. Chairman, that my statement might appear in the record in full.

Senator HATFIELD. It will be received and printed in the record. Thank you, Senator.

[The statement follows:]

STATEMENT OF SENATOR BROCK ADAMS

Mr. Chairman, I appreciate having the opportunity to speak with the committee about a project of great importance to the State of Washington, the Grays Harbor Improvement Project. I am very pleased to be sitting here with the Port's current Executive Director, Cliff Muller. Mr. Muller is accompanied by the former Executive Director, Hank Soike, who I have known for many years. Mr. Soike has done an excellent job in planning this project and I am sure he is pleased to see it approach the construction phase.

The Grays Harbor Navigation Improvement Project was started 24 years ago. The goal of the project is to further develop the Grays Harbor Port which is the only deep water port on the Washington State coast. The Water Resources Development Act of 1986 authorized its construction. To date, funds have not been appropriated to begin work. At this point the Port has local sponsors in place and the Army Corps of Engineers is ready to proceed with the project.

The Port of Grays Harbor has played a significant role in trade between the United States and the Pacific Rim. Currently, the Port is the largest timber and related finished products exporting port in the United States. It is also in the processof diversifying its scope to include other industries. For example, the Port is making a Foreign Trade Zone Application to allow it to import and assemble products in the harbor area. In addition, the Port is planned as a crucial part of a transportation network which will tie railroads and freeways with marine terminals.

Unfortunately, the potential of the Port has been inhibited by the current depth of the channel. Today, the Port is not deep enough to accomodate many of the newer, larger vessels. As a result, transporters are going to other ports or shipping out partially empty vessels. Channel improvements are essential to the future of this port and economy of the area.

Mr. Chairman, the officials and citizens of the Port of Grays Harbor have worked very hard to plan this project. They have raised a tremendous amount of money through local and state sources. However, those funds may not be available forever. The Army Corps of Engineers indicates that is it capable of spending thirteen million dollars next year to initiate construction of the project. I strongly urge you to provide funds for fiscal year 1990 and help this project get off to a well-deserved start.

STATEMENT OF HON. SLADE GORTON, U.S. SENATOR FROM WASHINGTON

Senator HATFIELD. Senator GORTON.

Senator GORTON. Thank you, Mr. Chairman. I second all of the remarks of Senator Adams in this connection. Hank Soike was lobbying me on behalf of this project when I was attorney general of the State of Washington and had nothing to do with it at all on every occasion in which I visited Grays Harbor.

It has been a dream of his and a dream of the community's for, as Senator Adams said, some two decades. It will mark a magnificent improvement in the economy of the depressed part of our State. It will also add to the competitiveness of the United States in attempting to bring our exports into balance with our imports across the entire Nation.

So in a sense we see a passing of the banner from Hank Soike, whose dream this was, to Cliff Muller, his successor. Both Senator Adams and I earnestly request your favorable attention to the proposal.

I, too, would like to have my full statement included in the record, but I want to reserve the time we have here for the two gentlemen who are true experts on the project.

[The statement follows:]

STATEMENT OF SENATOR SLADE GORTON

I am pleased to have the opportunity to appear before the Committee this afternoon to lend my strongest support for the Grays Harbor Navigation Improvement project. I know that my good friend Senator Hatfield has known Hank Soike, the former Executive Director of the Port of Grays Harbor, for many years and is personally familiar with this fine project. I'm also pleased to introduce the new Executive Director, Cliff Muller, who will be presenting the Port's testimony.

The Grays Harbor Navigation Improvement project was authorized in the Water Resources Act of 1986. The project includes the deepening of an existing channel that runs approximately 24 miles from the ocean through the harbor areas, expansion of the turning basins at Cow Point and Elliott Slough and the modification of the Union Pacific Railroad bridge at Aberdeen.

While Grays Harbor has been able to increase export tonnage in each of the last few years, the Port's long-term future is constrained by the present channel depth. It is a common sight to see ships at Grays Harbor delayed for many hours as the captain waits for favorable tides to help him clear the shallow channel. Additionally, ships have left the Port with less than full loads for no other reason than channel depth. The Port is losing potential customers because of this situation. We know of at least one local mill which is trucking their goods to Vancouver, British Columbia to be loaded on ships to the United Kingdom. The British vessels are too large to service the Port of Grays Harbor. For a country with a large trade deficit, it makes no sense to me to force our local businesses, at greatly increased costs, to export their goods through Canada.

Mr. Chairman, the Grays Harbor project is ready to be built. The local funding sources are in place. Recognizing the importance of the project for the economic development of the southwestern region, the State of Washington has contributed $10 million to the non-federal share of the project. The local community has also approved a special nine year local tax levy. The General Design Memorandum is expected to be approved within the next few weeks and the Local Cooperation Agreement will be finalized in the near future.

We are here before the committee today to, ask you to add funding for the Grays Harbor project to this year's appropriations bill. As General Pat Stevens of the North Pacific Division testified earlier this year before the House Energy and Water Appropriations Subcommittee, construction could begin on this project this year if funds are available. The General identified a figure of $13 million that could be used in fiscal year 1990 for construction of the Grays Harbor project.

Mr. Chairman, this is an outstanding project and I urge you to provide for a construction start this year.

STATEMENT OF CLIFFORD C. MULLER, EXECUTIVE DIRECTOR, PORT OF GRAYS HARBOR, WA

Senator HATFIELD. Mr. Muller, we are happy to welcome you to this hearing. I would be negligent if I did not also pay tribute to one of the great tutors this committee has had over the years—both staff and members. That person is Hank Soike, not just in terms of representing a port in the State of Washington but the leadership and the stature that you have developed over the years in your industry.

Hank has been very helpful to the entire coast and to all involved in this kind of port activity both through the National Ports Association and the local, the State and regional groups. In all areas you have certainly made an extraordinary contribution.

You come highly recommended, Mr. Muller. I am sure you understand that. We are happy to welcome you here in your new role.

Mr. MULLER. Thank you, Mr. Chairman. We call Mr. Soike the founding father of the Grays Harbor navigation improvement project.

Per your instructions, we will provide a written statement for the record and offer a few brief comments on our request for consideration of fiscal year 1990 funding.

By way of history of the project, you have heard the term "patient capital" and the careful planning and eventual payoff that occurs from patient capital. Constructively speaking, this project is an example of patient development starting with 1965, as the Senator noted, when the project was initiated, going through a series of feasibility studies, the last of which was 1982; introduction of cost sharing for the ports in 1986; and today, 1989, completion of the general design memorandum with the Army Corps of Engineers. We have a ready port willing to sign a local cooperation agreement.

Mr. Chairman, you're a Pacific Northwesterner but others may not know, Grays Harbor is 2 hours southwest of Seattle on the Pacific Coast in Washington State, the largest exclusively export port in Washington State and, in fact, the only deep water coastal port. We ship products all over the Far East to Japan, Korea, Taiwan, the People's Republic of China and increasingly to Europe, and the value of our exports for 1988 was $466 million. We are rather proud of that small but important accomplishment in our community for the balance of trade.

The deep draft justification—at home we call this the deep draft project—stands up well on the benefits of the project per our exiting lines of business and the almost 175 vessels calls that call our harbor each year.

We further plan to diversify our cargo base as well, but for the existing business as well as the new business we need the river channel to be deepened from 30 feet to 36 feet over 24 miles from the Pacific Ocean up to our terminal and replacement of a 1910 railroad bridge, currently a navigation safety hazard due to its narrow width.

The Port of Grays Harbor has lowered the project scope from the early days from 38 feet to 36 feet, and the project cost has been lowered by $25 million. This achieves a better, in fact an optimum benefit/cost ratio and recognizes the national budget considerations that are before us all.

Local cost sharing and uniform user fees have resulted in a partnership of sorts, an arrangement between the local sponsor, in this case us, and the U.S. Government. Mr. Soike, as you mentioned, was a key player in forging a working formula at the national level.

Since then the Port of Grays Harbor has lined up the local match of $22 million of the $70 million for this project spread over 3 years, we are an ideal example of how the system can work, patient development over a quarter of a century and completion of the general design and the local match funds.

The benefit/cost ratio at 1.9 to 1 is competitive with the 11 new starts proposed in the President's budget. There are not, however, any coastal navigation projects in the budget. The Port of Grays Harbor Project could correct that omission.

In conclusion, the Port of Grays Harbor is ready, willing and financially able to sign the local cooperation agreement. The navigation needs are here and now, and the problem of adequate draft for us is growing.

There can be increased foreign trade, particularly exports which is our specialty. The partnership has worked well as well as being long between ourselves and the U.S. Army Corps of Engineers. We urge the committee to fund a Corps capability of $13 million for fiscal year 1990, allowing construction of 20 of the 24 miles of navigation improvements. This phase would handle 58 percent of the cargo leaving our harbor.

We do appreciate the opportunity to share our thoughts and receive your consideration.

Thank you very much, Mr. Chairman.

Senator HATFIELD. Thank you, Mr. Muller.

[The statement follows:]

STATEMENT OF CLIFFORD C. MULLER

Mr. Chairman and Members of the Committee, my name is Clifford C. Muller and I am the Executive Director of the Port of Grays Harbor which is Washington State's only Deep Water Coastal Port. I am here today to strongly support $13 million in capability funding to the Corps of Engineers for a new construction start in FY 90 for the Grays Harbor Washington Navigation Improvement Project (GHNIP).

Our navigation facilities provide the access link among federal, state, and private timber resources and the Pacific Rim countries of Japan, Korea, Peoples Republic of China, and, our newest foreign customer, India. Marine cargoes also go to European markets. Grays Harbor is the largest timber and related finished products exporting port in the United States.

In 1988, 76 percent of the vessels departing from Grays Harbor had sailing drafts in excess of the current project depth. By over-dredging berth areas, accepting vessel delays, and sailing at maximum tide conditions, our pilots are able to move vessels with 34 feet of draft out of our existing 30-foot federal project. However, we are not able to load to capacity the larger vessels with up to 38 feet of draft. These vessels must go to other ports to be topped off before departure to international destinations. In addition, some larger vessels do not stop in Grays Harbor because of our shallow draft, but would stop if we had a deeper channel.

Grays Harbor is primarily an exporting port. 1988 was a record year with 4.9 million tons of cargo with an estimated value of $466.6 million. While our country still suffers from trade imbalance, Grays Harbor's activities continue to assist in reducing the deficit. Also, a major effort to convert Grays Harbor into a modern day diversified cargo port is now underway. A commitment of $17.2

million, in addition to the GHNIP funding requirements, has now been budgeted to accomplish this goal. Its completion is scheduled to coincide with that of the GHNIP. This effort will connect two major transcontinental rail roads and the present freeway system with existing modern marine terminals. The GHNIP is the critical link in this modernization and diversification effort. Our solicitation of diversified cargoes is already underway and has involved proprietary discussions with many interested shippers who have been made aware of future opportunities at Grays Harbor with completion of the GHNIP.

The Water Resource Development Act of 1986 (PL 99-662) authorized the Grays Harbor Project and made the Corps and the Port financial partners in the construction of this project. PL 99-662 authorized the Grays Harbor Project at $95.7 million. The total Project cost has been significantly reduced to $70 million through project modifications made possible by detailed design studies conducted by the Corps. Also, $22.4 million of that total is the Port's obligation as Local Sponsor. NOTE: The $70 million number reflects full funding to a projected construction start in FY 90 and extending over three years.

The Port executed a revised Statement of Financial Capability and Financial Plan on January 26, 1989. This statement and plan summarizes our ability to pay our share of the project costs and it has been included in the Corps's General Design Memorandum (GDM), which is now complete and in the process of being approved. A copy of this Financial Statement and Plan is attached to my Statement for the Record. A Local Cooperation Agreement (LCA) has been prepared and the Port is ready and anxious to sign the agreement.

To assist the Port in meeting its Local Cost Sharing Obligations, the State of Washington has appropriated $10 Million for that purpose. These funds are being re-appropriated in the State's 1989-1991 biennium. This re-appropriation of State funds is a result of no new start construction funding (Federal) in FY 89.

In addition, the Port is now levying a nine year Industrial Development Tax, with first collections received in 1988. Cash reserves and General Obligation Bonds, if necessary, will supplement the State assistance and our tax levy to complete our Local Cost Sharing Obligation. The Port has also completed its obligation as Local Sponsor for required lands, easements, rights-of-way, relocations, and disposal areas (LERRD) at a cost of $3.864 million.

On February 6, 1989, Corps of Engineers testimony before the House Appropriations Subcommittee on Energy and Water Development indicated construction on the Grays Harbor Project could start in FY 90, and complete the 20 mile down-stream segment, if the Corps's construction capability of $13 million is funded.

It is significant to note that if the construction funds are made available in FY 90, dredging contracts could be awarded in December 1989 and actual dredging could start in February 1990. Twenty miles of the 24-mile project, from the ocean bar through the Harbor to existing down-stream terminals, plus crab and fish mitigation, would be completed by the end of FY 90. This dredging in FY 90 would provide increased channel depth to four down-stream deep water berths (three public and one private) which handled 56.3 percent of the Grays Harbor marine commerce in 1988. Construction of the remainder of the project, which involves modification of an existing railroad bridge and four miles of dredging to three up-stream deep water berths, would continue in FY 91 and FY 92.

Therefore, in conclusion, because:

1. The navigation improvements are sorely needed and long overdue;
2. Local Cost Sharing funds are available now;
3. All lands, easements, rights-of-way, relocations, and disposal areas (LERRD) requirements have been completed;
4. The Port of Grays Harbor, as Local Sponsor for the Grays Harbor Washington Navigation Improvement Project, is ready to sign an LCA with the Assistant Secretary of the Army (Civil Works);
5. The Corps has the capability of starting construction in FY 90 if federal funds are available;

we respectfully request construction funding totaling $13 million be appropriated in FY 90 for the Grays Harbor Project.

Thank you very much for the opportunity to testify.

Clifford C. Muller

Clifford C. Muller, Executive Director

LETTER FROM BOOTH GARDNER, GOVERNOR, STATE OF WASHINGTON

April 19, 1988

John H. Stevens, President
J.K. "Bun" Lewis, Vice-President
Russell R. Richardson, Secretary
Port of Grays Harbor Commissioners
Post Office Box 660
Aberdeen, WA 98520

Gentlemen:

Since approving the Washington State 1986 Capital Budget which contained a $10 million appropriation for the Grays Harbor Deeper Draft Project, I have watched the progress of this important economic development project with great interest. I am pleased that the State of Washington through the Department of Community Development is able to participate in this effort. Today marks the signing of the contract between our agency and yours which will allow the funds to be disbursed as the Deeper Draft project moves forward.

Over the years, the State has worked on several programs which were designed to stimulate the economy of the coastal region. I am convinced that this project holds

great promise in its ability to stablize and retain your existing economic base which depends heavily on marine commerce, as well as to provide opportunities to diversify and expand the economy of coastal Washington.

You are to be commended for your preserverance in moving this project to this point. I sincerely hope that the necessary funds are appropriated by Congress which will allow the U.S. Army Corps of Engineers to begin construction in FY 1989 which could happen as early as next spring.

Sincerely,

Booth Gardner
Governor

LETTER FROM THE WASHINGTON STATE LEGISLATURE

May 17, 1988

Colonel Philip Hall, District Engineer
Seattle District, U.S. Army Corps of Engineers
Post Office Box C-3755
Seattle, WA 98124

RE: Grays Harbor Navigation Improvement Project
May 17, 1988 Public Information Meeting

Dear Colonel Hall:

We are pleased with the progress being made toward the construction of the Grays Harbor Deep Draft Project. We are equally pleased with the effort being put forth to identify and ameliorate or mitigate unavoidable environmental impacts.

Deeper Draft is vital not only to protect the existing timber and marine commerce jobs, but also to develop new trade opportunities and economic growth. Grays Harbor can play a larger role in the U.S. trade deficit. We are proud to be associated with this important project.

Sincerely,

Representative
Max Vekich
35th District

Representative
Bob Basich
District 19B

Senator
Paul Conner
24th District

Representative
Evan Jones
24th District

Representative
Jim Hargrove
24th District

Senator
Arlie DeJarnett
19th District

Representative
Doug Sayan
35th District

Senator
Brad Owen
35th District

STATEMENT OF LeROY TIPTON, MANAGER, GRAYS HARBOR CHAMBER OF COMMERCE

The Grays Harbor Chamber of Commerce submits this testimony in support of the Grays Harbor Navigation Improvement Project and urges Congress to include thirteen million dollars ($13,000,000) construction appropriation for the U.S. Army Corps of Engineers to initiate construction in fiscial year, 1990.

The Chamber of Commerce has long supported this Navigation Project, organizationally and through it's individual members. The history has covered many years and the local people have invested thousands of hours and hundreds of thousands of dollars readying this project for construction. The homework has been completed, the local sponsors have cost sharing cash in hand. FY-1990 is the year to get underway.

The Grays Harbor Navigation Improvement Project (GHNIP) was authorized for construction by the Water Resources Development Act of 1986 (PL 99-662). The Corps of Army Engineers has progressed with the necessary engineering and economic studies. The environmental hurdles have been cleared and the General Design Memorandum is now complete.

In testimony before this committee, corps personnel acknowledged capability to proceed with construction activities.

The Port of Grays Harbor is the largest timber exporting facility in the United States! This is of great national importance. Not one of the members of Congress needs reminding of the importance of trade confronting the United States today. The Harbor is undertaking a major effort to further it's contribution to reducing this deficit by converting Grays Harbor into a modern diversified port. Local funds in the amount of seventeen million two hundred thousand dollars ($17,200,000) have been budgeted to this goal. Further the local goal is to complete the modernization coincidingly with the completion of the GHNIP.

Why is the Port of Grays Harbor of such great significance? One reason is that it is the only deep water port on the coast of Washington State, therefore it has the geographic advantage of least distance to export markets.

The current depth of thirty feet limits the size of vessels which can physically access the port. Today, seventy-six percent of the total vessels must limit their loads or exceed this draft. This limitation impacts the efficiency of all shiping, whether domestic or foreign, and presents an adversity to expansion of shipping markets.

In 1988, four million, nine hundred thousand (4,900,000) tons were exported. This volume contributed four hundred sixty six million, six hundred thousand, dollars ($466,600,000.). The Grays Harbor modernization connecting two major railroad systems, and existing freeway systems to a modern deep water port will provide the catalyst for an increasing contribution toward reduction of the trade deficit.

The record shows that administrations since the term of Jimmy Carter have made it known that local cost sharing caused local projects to have national value, and therefore could wisely be constructed. The people of Grays Harbor and the State of Washington have their cost sharing cash in hand.

The portion which is committed by the State of Washington requires reappropration on a biennial basis, therefore Federal construction appropriation is very important at this time. Indeed, timely action by the Cognress is critical. In previous days of one hundred percent Federal funding, time was not as critical, however now the Federal appropriations must be timely and coincide with the local funding requirements. Team work requires all members to be in concert. Again we submit FY-1990 is the year for the team to get underway with the Grays Harbor Project.

In summary, we submit that the GHNIP is ready for construction; it is deserving of construction funding; the Corps of Engineers have expressed construction capability; local cost sharing is ready; the project has a very favorable B/C ratio of 1.9 to 1 and local and state support is very strong.

With these facts in focus, we the members and Board of Directors of the Grays Harbor Chamber of Commerce urge this committee to include an appropriation for construction in the amount of thirteen million dollars ($13,000,000) for the GHNIP for FY 1990.

We thank the committee for providing this opportunity to submit this statement of support.

STATEMENT OF HENRY E. SOIKE, PROJECT COORDINATOR, AND FORMER EXECUTIVE DIRECTOR, PORT OF GRAYS HARBOR, WA

Mr. SOIKE. Mr. Chairman, I thank you for the kind words of introduction to my successor at the Port of Grays Harbor. I want to thank you for all of the kindnesses expressed during the past years at the times that I have testified before this committee.

I recall with a great deal of satisfaction the times that we worked on funding hopper dredges that are serving the United States and our west coast ports today.

I do hope that the committee at this time will look with favor upon funding for the deepening of Grays Harbor. One of the things that I have noted in the 11 new starts that were in the President's budget is that there are no navigation projects included in those 11, that is deep water navigation, and I hope that some plans for Grays Harbor could correct that inequity.

As Mr. Muller has said, we are ready, willing and able to proceed.

Thank you.

Senator HATFIELD. You might take that one step further in the President's budget and recognize that they transferred $86 million from the operation and maintenance fund in order to provide the funding for some of their new starts, which is really redistributing the existing funding program, and we get more slippage every year.

In fact, as you know, there are no new starts at all for 1989 in our budget. We have yet to set the criteria on how we will consider these requests such as yours because in the absence of a budget resolution and the various and sundry caps that we will have within that budget resolution, it is very difficult for this committee to really determine the criteria upon which we will consider these requests.

Whether we have no new construction starts for 1990 like we had for 1989, I do not know. The chairman, Bennett Johnston, of course is wrestling with this, as we all are on this subcommittee.

I often wonder if we fail to apply some of the same economies to the programs that build our infrastructure and the multiplier that they reflect not just in the initial cost/benefit ratio but in the terms of the outyear multiplication and expansion that they incorporate.

It is very difficult because over the years you and I have seen many changes from no cost sharing to a policy of cost sharing, and for 12 years of Presidents, Mr. Carter and Mr. Reagan who demonstrated very little understanding or appreciation for water resource development of this kind and other western water projects.

I remember one of the first major statements of policy under the Carter administration in January 1977 was to announce a western water projects hit list, and everything tended to unravel thereafter.

Then the Reagan administration came in with the idea that we were not going to continue this kind of boondoggling in the West unless we had some cost sharing showing that there was seriousness on the part of the local people.

Now you have come up with cost sharing, and many other groups have come up with cost sharing. Frankly, I support cost sharing. I think it is a sound principle.

Even with cost sharing, however, we are still fighting this slippage and this losing battle almost. Now we have Senator Adams on the Appropriations Committee to fight this, and I think Senator Gorton's very important involvement with the Budget Committee can certainly be very helpful in the formulation of a budget resolution that will recognize some of these important expenditures that are not only past due but represent the underpinning for economic opportunity and economic growth. Building that infrastructure is a long-term investment.

One last comment. In to the corporate world of Wall Street or anywhere else, long-term programs are almost totally absent from the CEOs' reports as well. They have to survive on quarterly reports, not any longer just the annual report with maybe a 5- or 10-year project or program of investment. Now they have to justify their continued role on a quarterly bottom line.

So everything in this world today seems to be constricting this idea of long-term import, long-term impact, long-term returns on the investments that are made today.

Anyway, I hope you understand the problems this committee faces and the Congress as a whole; and with outstanding leaders like Senator Adams and Senator Gorton and Senator Johnston, we will all be working for the same objectives.

I might also say that Senator Magnuson may have a status of retirement but he is not inactive. He has already been in communication with Senator Johnston that if there are any new starts, Grays Harbor should be at the top of the list right after the Umatilla project in Oregon. [Laughter.]

I just want you to know that you folks have a good record here and a lot of support from a wide range of people. It is a very worthy project. You do not have to convince me.

Mr. MULLER. We thank you for your comments.

I would like to make one more comment. The port has worked hard to accept cost sharing and uniform user fees, and in the words of our chairman who was scheduled to be here today but whose illness precluded that, he was quoted in our local newspaper as saying that he feels betrayed after that major long effort in the authorization bill which incorporated the uniform user fees and the cost sharing. Now that we have done our part, we were not itemized for Federal funds in the President's budget for construction. That is the point where he felt we had been betrayed.

So your consideration will be greatly appreciated. Thank you.

Senator HATFIELD. Thank you, gentlemen.

ADDITIONAL PREPARED STATEMENT FOR THE RECORD

Before calling the next group, I want to place in the record a statement submitted by the Columbia Basin Development League regarding the Columbia Basin irrigation facilities program.

[The statement follows:]

STATEMENT OF THE COLUMBIA BASIN DEVELOPMENT LEAGUE

This testimony supports the Fiscal Year 1990 budget of $5,210,000 as proposed by the Department of the Interior for the irrigation facilities portion of the Columbia Basin Project in Washington State.

Your committee's past support of the Columbia Basin Project is appreciated and because of this support the Project is a resource the Nation and the State of Washington can be proud of. The quality of the water, soil and climate enable the farmers to diversify and grow over seventy different crops with reliability year after year with a total annual gross income exceeding $350,000,000. The Project also has created a great recreational area in eastern Washington with over 230,000 acres being set aside for public use. More than 2,000,000 visitor days are used for fishing, hunting, boating, sightseeing and camping each year. Its 25,000 acres of artificially created wetlands and 660 new lakes have created a very important nesting and migration route for waterfowl. The quality of the soil and water assure the area of continued success without fear of selenium contamination. The energy production at Grand Coulee Dam and the flood control provided on the Columbia River further attest to the great resources of the Columbia Basin Project, now and into the future.

Your continued support and approval of the FY90 budget will be greatly appreciated.

LETTER FROM EARL TERMILLEGER, PRESIDENT, EAST COLUMBIA BASIN IRRIGATION DISTRICT

March 31, 1989

Senator J. Bennett Johnston, Chairman
Energy & Water Development Sub-Committee
136 Hart Building
Washington, D.C. 20510

Dear Senator Johnston:

The East Columbia Basin Irrigation District supports the proposed $5,210,000 budget for the Columbia Basin Project for Fiscal Year 1990. This level of funding, which is less than the average annual amount budgeted for the past four years, is adequate to meet the needs of the Project for the coming year.

We are pleased that the Commissioner of Reclamation has included finalization of the Environmental Impact Statement for the continuation and completion of the second half of the Columbia Basin Project in this proposed budget. Local Bureau of Reclamation officials promise that this important planning document will be completed to the public draft state by the beginning of Fiscal Year 1990. Publication of the draft EIS and the adoption process of the final EIS will be an important natural resource decision for the Pacific Northwest. The soils and climate of the Columbia Basin Project area produce a tremendous diversity of crops when irrigated. The proximity of the Project to northwest ports offers a unique opportunity to increase crop exports. This opportunity may become more attractive in the future if the gradual decline of irrigated acreage in the southwest and southern plains continues. The

Environmental Impact Statement, when completed, will measure the feasibility of this opportunity.

This proposed budget will also provide sufficient funds for construction of agricultural drains. The current need for drain construction is not nearly as widespread as it was in the earlier years of the Project. However, continuing drain construction, as the need arises, is vital to the long term sustainability of the Project.

The proposed budget also includes funds for improvements to existing recreational facilities at Scootney Reservoir. The public lands and lakes of the Columbia Basin Project have become a very popular regional outdoor recreation attraction.

Sincerely,

Earl Terwilleger
President

LETTER FROM THE QUINCY-COLUMBIA BASIN IRRIGATION DISTRICT

March 30, 1989

The Honorable Senator J. Bennett Johnston, Chairman
Energy and Water Development Sub-Committee
136 Hart Building
Washington, D.C. 20510

Dear Senator Johnston:

In re: FY90 Appropriation for Columbia Basin Project

The Board of Directors of the Quincy-Columbia Basin Irrigation District, one of the three irrigation districts comprising the Columbia Basin Project, has reviewed the FY 1990 Appropriation Request for the Columbia Basin Project submitted by the Department of the Interior.

The Board of Directors believes that the budget amount requested is adequate to meet projected needs for FY 1990 and wholeheartedly supports the same.

The Board is particularly pleased with the requested budget item of $3,065,000 for drainage construction, as well as the amount requested of $1,375,000 for deferred and supplemental construction. It is a well known fact that the construction of an irrigation project without provision for drainage seriously impairs the ability of the landowners to repay their construction cost obligation owing to the United States.

The Board realizes that this is a time of budgetary constraint but it does believe that the amount requested is essential to the best interests of the Project and therefore solicits the

support of yourself and your Committee in approving the budget request.

Sincerely,

QUINCY-COLUMBIA BASIN IRRIGATION DISTRICT

By: _____
Secretary to the Board of Directors

LETTER FROM MERLE R. GIBBENS, SECRETARY-MANAGER, SOUTH COLUMBIA BASIN IRRIGATION DISTRICT

March 29, 1989

Senator J. Bennett Johnston, Chairman
Energy and Water Development Subcommittee
136 Hart Building
Washington, D.C. 20510

Dear Senator Johnston:

On behalf of the Board of Directors of the South Columbia Basin Irrigation District, I am pleased to inform you and your committee members that we support the President's Fiscal Year 1990 Appropriation request for the Columbia Basin Project (CBP) in south-central Washington. The proposed CBP construction total - $16,363,000 - is 89.3% of the FY 1989 request.

More specifically, the budget, as proposed, will support the following Project irrigation activities:

1. Completion of Environmental Impact Statement identifying future Project development alternatives,

2. Improvements of WB10 wasteway in northern Franklin County,

3. Construction of continued drainage needs to maintain land production potential, and

4. Initial investigation of Franklin County road system instability problems as authorized by PL 100-516.

We look forward to the ultimate completion of the 1,095,000 acre CPB as originally authorized and reauthorized by Congress on August 30, 1935.

Your committee's favorable consideration of the Department of Interior Program for the Columbia Basin Project in FY 1990 is encouraged.

FOR THE BOARD OF DIRECTORS

Merle R. Gibbens

Merle R. Gibbens
Secretary - Manager

FISH BYPASS FACILITIES, COLUMBIA AND SNAKE RIVERS

STATEMENT OF TOM TRULOVE, CHAIRMAN, NORTHWEST POWER PLANNING COUNCIL

ACCOMPANIED BY:

JIM GOLLER, VICE CHAIRMAN, NORTHWEST POWER PLANNING COUNCIL

DOUG DeHART, MANAGER OF FISHERIES, OREGON DEPARTMENT OF FISH AND WILDLIFE

Senator HATFIELD. Now I would like to invite the chairman of the Pacific Northwest Power Planning Council, Mr. Tom Trulove, and I believe with him is Mr. Jim Goller, Al Wright, John Smith, and there is Steve Crow with you today, too, Mr. Chairman.

Mr. TRULOVE. Mr. Chairman, my name is Tom Trulove, and I am chairman of the Northwest Power Planning Council. Appearing with me today are Al Wright, executive director of the Pacific Northwest Utilities Conference Committee; John Smith, who is vice chairman of the Columbia Basin Fish and Wildlife Authority; Jim Goller, vice chairman of the Power Planning Council; and Doug DeHart, manager of Fisheries for the Oregon Department of Fish and Wildlife.

To conserve time, Mr. Chairman, I will submit my full statement for the record.

Today we would like to focus our testimony on the Corps of Engineers budget for fish bypass facilities at the Federal dams on the Columbia and Snake River system.

FUNDING REQUEST

The council is seeking an additional $9.9 million in the Corps' fiscal year 1990 budget to speed the installation and improvement of downstream bypass facilities for juvenile fish at six of our main stem dams. The Corps budget request for 1990 essentially terminates funding for continued planning and construction of new and improved bypass facilities.

As you know, mechanical bypass facilities including screens guide the young salmon and steelheads away from the dam's generating turbines and thereby reduce the fish kill. Dams without screens to deflect fish away from their turbines kill 10 to 30 percent of the young fish at each project. Because these fish pass through a number of dams on their trip to the ocean, there is a significant cumulative loss.

We believe that these mortality levels can be cut in half if we install adequate bypass systems at the dams.

Until these bypass systems are installed, spills of water over the dam are used to enable smolts to move downstream, but this interim spill measure is not as effective in protecting the fish as the bypass systems, and it causes BPA to lose revenue from lost hydroelectric generation. So to avoid costly spill and to implement a long-term solution, we need to design and install adequate systems at the dams as soon as we can.

These new and improved facilities are expensive, and yet we feel that they are needed to fulfill a long-delayed debt to the past. Funds would be appropriated to the Corps of Engineers but would

be fully repaid with interest over the life of the facilities by ratepayers in the northwest. In other words, the appropriated funds will be reimbursed fully by the region.

REGIONAL CONSENSUS ON BYPASS PROGRAM

As we reported last year, regional consensus has been developed by all parties in the region, and this diverse group includes Bonneville Power Administration, all of the private and public utilities, the tribes, the large industrial electric customers, State fish agencies, and Federal fish and wildlife organizations. All of them support completion of improved bypass as soon as possible.

In each of the last 5 years Congress has provided additional funding to the Corps budget request for the bypass program. Last year the Appropriations Committee directed the Corps to spend 1988 funds and then approved additional funding for 1989 to continue the bypass program at six mainstem dams. Your foresighted action ensures that progress on the bypass program will continue through 1989.

Unfortunately, though, the Corps budget requests for next year, 1990, to fund bypass facilities was rejected by OMB. After discussions with the Corps, we estimate that another $9.9 million will be required to continue work on the bypass facilities. We have attached to our written testimony a line item cost estimate by project for each of the facilities. We urge the committee to include the same kind of direction in the appropriations bill as provided in 1989 in order to ensure obligation of funds for these critical activities.

So with that, I would like to thank you for giving us this opportunity to testify on this matter of great importance to the Northwest. We deeply appreciate this subcommittee's leadership and the thorough consideration which you have given the needs of the Pacific Northwest in the past.

Thank you.

[The statement follows:]

STATEMENT OF TOM TRULOVE

Mr. Chairman and members of the Subcommittee, my name is Tom Trulove, and I am chairman of the Northwest Power Planning Council. The Council was authorized by Congress in 1980 and created as an interstate compact by the states of Idaho, Montana, Oregon and Washington. Its purpose is to develop a 20-year regional electric power plan to ensure the Pacific Northwest an adequate supply of power at the lowest possible cost. The plan is designed to ensure that the region only acquires resources it needs and it acquires the least-cost resources first. The Council also was directed to develop a major program to rebuild fish and wildlife resources which have been harmed by hydroelectric development in the Columbia River Basin.

We appear today to present testimony on the fiscal year 1990 budget requests of five federal agencies. These agencies are the Army Corps of Engineers, Bureau of Reclamation, Bonneville Power Administration, Federal Energy Regulatory Commission, and the National Marine Fisheries Service, which is within the jurisdiction of another appropriations subcommittee.

Our interest in these budgets stems from the fact that each of these agencies implements, funds, or regulates activities which are a part of the Council's Northwest Power Plan and Columbia River Basin Fish and Wildlife Program. Both the Council's power plan and its fish and wildlife program were developed under the mandate of the Northwest Power Act of 1980. In this Act, Congress provided direction and the framework for the Council as a policy and planning body to implement its actions through these federal agencies. The ability of these agencies to meet their objectives under the Act is tied directly to their funding levels and budget priorities.

Corps of Engineers - The primary focus of our testimony this year, as it was last year, is on the need to reduce salmon and steelhead mortality as these fish migrate down the Columbia and Snake rivers. To do this, the Corps needs additional funds to speed the installation and improvement of juvenile salmon and steelhead bypass systems at Corps of Engineers dams. Unfortunately, the FY 1990 budget request for the Corps of Engineers includes only funding to continue studies on the fish screens at Bonneville Second Powerhouse. This FY 1990 request is similar to initial Corps budgets in 1988 and 1989 that essentially terminated funding for the continuing design and construction of critical fish bypass and transportation facilities at the major federal dams on the Columbia and Snake river system.

These facilities are among the very highest priorities in the Council's fish and wildlife program. In the past, this subcommittee has provided valuable leadership and support for the fish screens, bypass, and complementary transportation facilities. Dams without screens to deflect fish away from their turbines will kill 10 to 30 percent of the juvenile fish at each project. Because fish go through a number of dams on their trip to the ocean, there is a significant cumulative loss. For example, if you started with 100 fish at the top of the Snake or Columbia River, over half would be killed due to turbine mortality by the time they got to the bottom dam in the system. We believe that these mortality levels can be cut in half if we install adequate bypass screens at the dams.

While these bypass systems are installed, spills of water over the dams must be used to enable smolts to avoid the turbines and move downstream. This interim spill measure is not as effective in protecting fish as the bypass system and it causes Bonneville to lose revenue that could have been generated if the same water went through the turbines and produced electricity. The cost associated with spill can vary greatly depending on the value of electricity. In 1985, the cost was $27 million. The sooner that bypass systems are installed and working properly, the sooner we will improve fish survival and avoid the revenue loss from spilling water.

Representatives of the region's fish and wildlife agencies, Indian tribes, Bonneville Power Administration, utility groups, the Bureau of Reclamation and

the Council have been meeting over the past 16 months to negotiate an agreement to provide spill and/or mainstem passage improvements at four mainstem dams. The proposed agreement is intended to cover a 10-year period and would tie spill to a schedule for development of juvenile fish bypass facilities at Lower Monumental, Ice Harbor and The Dalles dams. Spill is to be provided in the interim while fish bypass facilities are being designed, tested and installed at these projects. The Council believes the spill agreement meets the Act's requirements and represents an important regional consensus on a difficult issue that has been contentious for many years. Finally, the agreement provides important economic benefits to the region by allowing Bonneville to develop more efficient power marketing and transmission initiatives.

To avoid costly spill and to implement a long-term solution, we need to plan, design, and install bypass systems at all the mainstem dams as soon as possible. These new and improved facilities are not inexpensive, but they are needed to fill a long delayed debt to the past. It should also be noted that these facilities are part of the hydro portion of the projects and will be fully repaid by the region's ratepayers. In other words, the appropriated funds will be fully reimbursed by the region. Right now, the bypass facilities vary from dam to dam. Some are considered state-of-the-art. Others are obsolete. Still other dams have no bypass facilities at all.

We need improved bypass facilities at Little Goose, Lower Granite, McNary, and Bonneville dams. We need new facilities at Lower Monumental, Ice Harbor, and The Dalles dams. These needs have been recognized by a coalition of fishery agencies, tribes, and utility groups. Bonneville Power Administration, the Pacific Northwest Utilities Conference Committee, the Public Power Council, the Columbia River Inter-Tribal Fish Commission, the Columbia Basin Fish and Wildlife Authority, and the Council all support the facilities. As we reported last year, these groups agreed to an expedited schedule for completing the facilities.

Each of the last five years, Congress has added funding to the Corps' budget request for the bypass program. In FY 1988, the Congress included an additional $8.7 million for bypass facilities at six mainstem dams. Allocation of these funds was delayed for most of the year pending a further analysis by the Administration in Washington, D.C. Due in large part to the delay in release of 1988 funds, the original schedule developed by those in the region cannot be met. Nonetheless, this diverse group of interests still supports completion of the facilities as soon as possible.

During consideration of the FY 1989 Energy and Water Development Appropriations bill, Congress addressed both the Council's concern over the delay in spending 1988 funds and the lack of continued funding in the Corps' budget request for 1989. The final appropriations bill included a provision directing the Corps to use the $8.7 million in funds that were approved by Congress for 1988. In addition, Congress added $9.6 million to the Corps' 1989 budget for the fish bypass program. Those funds are to be used for improvements at Little Goose, Lower Granite and McNary dams, and for new facilities at Ice Harbor, Lower Monumental and The Dalles dams.

Due to the absence of funding in the Corps' FY 1990 budget request, additional funding should be added by Congress to continue progress on bypass facilities under a revised schedule. Preliminary discussions with the Corps indicate that another $9.9 million is required and can be effectively used in FY 1990 for the bypass program. We have attached to the testimony a line-item cost estimate by project for each of the facilities. We urge the Committee to include the same kind of direction in the appropriations process as provided in 1989 in order to ensure obligation of funds for these vital activities.

Bureau of Reclamation - The Council has consistently identified the Yakima River Basin as a high priority for fisheries enhancement in the Columbia River Basin. We support the budget request which will complete construction of Phase I of the Yakima fish passage facilities and will continue the Yakima water enhancement project studies.

On the other hand, no funds are requested in the FY 1990 budget to begin construction on the recently authorized Umatilla Basin Project. The Bureau indicates that approximately $1.3 million of additional funding could be used to initiate construction on the project. In addition, the Council supports allocation of an estimated $75,000 to $100,000 within the Bureau budget for pump operations and maintenance in order to continue interim flow augmentation in the Umatilla River Basin.

Bonneville Power Administration - The Bonneville Power Administration is the primary implementer of the Council's power plan and fish and wildlife program. The Council has followed the development of Bonneville's FY 1990 budget and has reviewed the final budget proposal. We would like to make some brief comments on it. The total Bonneville budget for FY 1990 is projected at $2.205 billion as compared to $2.169 billion in FY 1989 (with net residential exchange). This proposed budget for 1990 represents about a one percent increase over 1989. The increase is primarily due to increased operations and maintenance costs associated with thermally generated power which Bonneville sells. The budget submission contains no major new programmatic initiatives, and it generally represents a sound fiscal blueprint. The Council, however, is opposed to one provision in the budget proposal.

Bonneville Repayment - The Administration budget for 1990 includes an old proposal to alter Bonneville's approach to repaying its debt for construction of the region's hydropower system. Bonneville's repayment would be accelerated and the interest rates on unpaid debt would be allowed to vary from year to year.

If the proposal is adopted, Bonneville would need to pay an additional $544 million to the U.S. Treasury in 1990, in addition to the $644 million required under the existing repayment methodology. Bonneville estimates that the priority firm rate would increase 25-55 percent over current rates as a result of the proposed repayment policy. In addition, the Council estimates that residential and small farm customers could lose more than $150 million in benefits. These benefits currently accrue to utilities that exchange their power with Bonneville in return for the lower cost federal power sold to public utilities. The Northwest has 575,000 jobs that are affected by energy-intensive industries that depend on low cost power. Dramatic changes in Bonneville's repayment would put these jobs at risk and would severely damage the economic recovery underway in the Northwest. The Council opposes this budget item and urges the Congress to again provide the leadership to drop this short-sighted proposal which could devastate the economy of the Northwest.

Bonneville Conservation - In the past, the Council has testified in support of adequate levels of revenue and borrowing authority so that Bonneville could pursue a diversified energy conservation effort to build capability in all sectors of the region's economy. It was felt that such an effort would help ensure that cost-effective conservation resources would be in place when needed by the region. In addition, the Council has consistently emphasized that Bonneville conservation spending should focus on resource opportunities that would otherwise be lost if not obtained now -- e.g., new buildings, where energy savings can only be obtained when the building is built and it would not be cost-effective to achieve savings by retrofitting the building at a later date. The Council continues to be concerned over the adequacy of funds to build capability for the future and to capture otherwise lost opportunity resources.

In our view, Bonneville needs to develop a long-term strategy for acquiring conservation. Bonneville should plan for adequate funding and staff to acquire otherwise lost opportunity resources and build capability to operate conservation programs in all sectors. There is a need to design and implement pilot programs to gain experience in and devise long-term plans for acquisition of conservation in the commercial and industrial sectors. Due to the long lead time required to develop full-scale programs, the Council is particularly concerned about projected budget levels in FY 1990 and beyond. Accordingly, the Council will continue to work with Bonneville to develop a plan to provide adquate levels of support for lost opportunity resources and capability building activities in the commercial and industrial sectors, particularly in future budget proposals.

Bonneville Fish and Wildlife - Bonneville has proposed an appropriate level of funding, $42.4 million, for fish and wildlife activities in FY 1990. Bonneville, the Council and the Columbia Basin Fish and Wildlife Authority met in 1987 to develop levels of funding needed to implement the Fish and Wildlife Program. Agreement was reached on a planned level of 1990 and 1991 effort that is very close to the levels being proposed by Bonneville in the budget. The levels were determined by examining individual fish and wildlife program measures and estimating the cost of the measures. We urge the Congress to support the level proposed in the budget request.

Federal Energy Regulatory Commission - The Federal Energy Regulatory Commission budget for FY 1990 contains nearly $32 million for hydropower regulation. These funds appear adequate to implement the hydro relicensing legislation under which the Commission will consider comprehensive plans such as that prepared by the Council. We support the budget request for hydropower regulation.

National Marine Fisheries Service - Although it is not in the subcommittee's direct jurisdiction, we would also like to comment on the National Marine Fisheries Service (NMFS) budget. The Administration once again proposes to curtail appropriations for operating the Mitchell Act hatcheries. This includes 25 hatcheries that release over 100 million juvenile salmon and steelhead into the Columbia River system. Together, these hatcheries produce 50 to 70 percent of the salmon released into the Columbia River. The Mitchell Act funds also support a series of fish passage facilities in the basin, such as fish ladders and irrigation screens. These facilities represent a long-standing federal commitment to help alleviate the adverse effects of water diversions, deforestation, hydroelectric dams and pollution. The estimated costs for operating and maintaining these facilities is just over $9 million. The Council joins the Northwest delegation in opposing these cuts.

Mr. Chairman, thank you for this opportunity to share our concerns with you. We deeply appreciate this subcommittee's past attention to the needs of the Pacific Northwest. I would be pleased to answer any questions.

STATEMENT OF AL WRIGHT, EXECUTIVE DIRECTOR, PACIFIC NORTHWEST UTILITIES CONFERENCE COMMITTEE

Senator HATFIELD. Thank you, Mr. Chairman.

Do any of the other gentlemen wish to make any comments?

Mr. WRIGHT. Yes, Mr. Chairman. My name is Al Wright. I am executive director at the Pacific Northwest Utilities Conference Committee, which is an association of over 70 private and public utilities as well as the direct service industries which buy electricity directly from the Bonneville Power Administration.

We have participated on behalf of the utility interest in building this consensus in support of the bypass systems in the Northwest. Besides the points that have been made already, that this is the best known fisheries protection program at the dams, be it relatively expensive, and the fact that it will be repaid by the Pacific ratepayers in full, there are two other points I would like to add to that.

One, since 1980 and the passage of the Regional Power Act, the Northwest has embarked on a massive fisheries mitigation program in the Columbia and Snake Rivers which now results in the ratepayers across the region, both those under Bonneville Power Administrations and those under private utilities, in investing approximately $200 million a year in this fisheries program. Almost all of that $200 million of ratepayer, nontaxpayer money is invest-

ed above these projects; therefore not only are these projects important today and are cost effective today, they will become even more important and more cost effective as we begin to see the results of this investment of the ratepayers money in the region's fisheries.

SPILL PROGRAM

The second point I would like to touch on is the interim protection program until these facilities can be installed is, of course, what we call a spill programs. That results in Bonneville revenues foregone of sales of energy somewhere between $10 and $27 million per year, depending on the water and market conditions.

But also it is important to point out that that energy that we are foregoing generation is used in the spring and summertime mainly to offset generation from nonrenewable sources such as gas- and oil-fired plants throughout the western United States and therefore has a significant social value beyond just the Bonneville revenue question.

So with those points, Mr. Chairman, we would like to add our support to the plea for the Congress to reinstate the $9.9 million for fiscal year 1990, and I, too, would like to thank this committee's efforts in the past and present in helping us try to accomplish this program in a timely manner.

Thank you.

[The statement follows:]

STATEMENT OF AL WRIGHT

Mr. Chairman and members of the Subcommittee, my name is Al Wright. I am the Executive Director of the Pacific Northwest Utilities Conference Committee (PNUCC). PNUCC is a nonprofit corporation representing over 70 private and public utilities and industries that purchase electrical power from the Bonneville Power Administration (BPA).

I am appearing today to provide testimony on the fishery protection measures in the U.S. Army Corps of Engineer's (Corps) budget for fiscal year 1990. PNUCC's interest in the Corps' budget is based on our support of the development and installation of mechanical fish bypass facilities at the Corp's hydroelectric projects on the mainstem Columbia and Snake Rivers. PNUCC supports the installation of these facilities because we believe these facilities are the only known long-term, cost-effective solution to fish bypass problems at these projects.

The purpose of these bypass facilities is to reduce the mortality of juvenile salmon and steelhead as they migrate down the Columbia and Snake Rivers. Individual estimates of mortalities of fish passing through generating turbines at each project are not particularly large. However, due to the number of dams on the Columbia and Snake Rivers, the cumulative impact of the turbine related mortalities results in a significant impact on the various fish runs. The installation of mechanical bypass facilities at each project will reduce the total number of mortalities by an estimated 50 percent or more.

The Northwest's ratepayers are contributing approximately $200 million each year to the protection, mitigation, and enhancement of the fishery resources in the Columbia River Basin. This figure includes activities of investor-owned utilities and public generating utilities as well as the extensive BPA program. Under the Pacific Northwest Power Planning Council's (Council) Fish and Wildlife Program, the BPA ratepayers have funded numerous fishery mitigation and protection programs. Most of these programs are focused on increasing fishery production upstream of the federal projects on both the Snake and Columbia Rivers. Installation of the mechanical bypass facilities is necessary to protect and assure the success of the substantial investment the Northwest ratepayers are making toward rehabilitation of the upriver fishery resource.

Further, until mechanical bypass facilities are installed, the Council's Fish and Wildlife Program calls on the Corps to spill water at each dam to bypass the fish over the project's spillways instead of passing the water (and fish) through the tur-

bines. Spill is expensive due to the considerable loss of power revenues. Current estimates of the annual cost of the spill program at the federal dams range from $10 million to as high as $27 million. The magnitude of the annual cost impact depends on the amount of water available and power marketing opportunities. In addition, the spill program forces use of non-renewable energy sources, such as oil, to replace the lost hydro power generation. Finally, as the Northwest approaches a balance between energy demand and supply, the value of energy will increase and the cost of the spill program will increase. Therefore, spill is a very expensive method of providing fish protection at each project and the costs will greatly increase in the future.

As an interim measure, the spill program provides acceptable fish protection. According to the fishery agencies, however, fish survival provided by the existing spill program is at the minimum acceptable range. But mechanical bypass can greatly increase total Columbia system fish survival by increasing passage survival several percentage points at each project. Installation of mechanical bypass facilities also will eliminate the need for a costly spill program.

In addition to PNUCC, the Council, BPA, and the fishery agencies and tribes have agreed that bypass facilities at the federal projects should be improved or installed as soon as possible. Improvements in bypass facilities are needed at Little Goose, Lower Granite, McNary, and Bonneville Dams. New facilities are needed at Lower Monumental, Ice Harbor, and The Dalles Dams. The Corps' scheduled completion of the bypass facilities at these dams is about 1994. The fiscal year 1990 budget, however, includes no funding for bypass facilities. The only funding provided in fiscal year 1990 is allocated to continued studies of the existing bypass system at Bonneville Second Powerhouse. With no funding for bypass facilities, the construction schedule for the other projects cannot be met. This delay will result in further losses of power revenues and in continued fishery losses at a level unacceptable to the fishery agencies. PNUCC is committed to working with the Corps and the fishery agencies in the development and installation of functional and cost-effective bypass facilities. Therefore, PNUCC strongly supports the allocation of additional funds in the Corps' budget necessary to stay on a 1994 completion schedule.

To assure timely installation of mechanical bypass facilities, we urge you to appropriate an additional $9.9 million for fiscal year 1990. This amount is based on the Corps' estimate of the level of funding required to continue the bypass development programs on schedule. Moreover, the vast majority of this funding will be repaid to the federal treasury through BPA revenues. Therefore, we respectfully request this additional funding for the Corps FY 1990 budget.

Mr. Chairman, thank you for this opportunity to express our concerns to you and the Subcommittee.

REGIONAL SUPPORT AND COOPERATION

Senator HATFIELD. I am sure that all the members of the commission and council will recognize the importance of your statement, Mr. Wright. Historically, so-called upriver members do not necessarily always see the greatest possible values or at least do not wish to participate in paying for some of these benefits that do accrue to everyone. I think that is a great step in the right direction, and I want to commend your membership and your leadership to making this now a reality.

It does seem to me that there are changing situations here that point to the importance of these project. The Corps has now reviewed its past position on some of these specific projects and now supports all, I believe, except Ice Harbor which they hold in reserve for further economic analysis, feeling that perhaps The Dalles ought to locally pay for their particular facilities; but at least for the other units, they now support that role.

I would like to urge again that we take a long-term view of not only the capital investments that are required but sustaining the programs even once they are in place, even the happiest of scenarios in getting the $9.9 million to put in these facilities in fiscal year 1990.

LONG-TERM PROGRAM FUNDING

A long-term problem is still with us, and that is the annual appropriation basis upon which we have to gamble every year to keep these fisheries viable and at the same time to make sure that these investments, capital investments, pay out by the sustaining obligations of not just the Mitchell Act but other fishery programs that we seemingly have to make major battle for every year in this committee, in this Appropriations Committee. That concerns me, which has led me to suggest maybe there ought to be some thought given to some kind of regional self-financing of the fisheries program. That has met with great accolades from every direction.

I still think that is something we had better get a look at because I think we can justify the overall responsibilities that the users have, whether they be fish users, recreational, commercial, the local communities, the ratepayers of electricity, reclamation, flood control, navigation, all of these benefits that come out of this major waterway. Somehow I think all the beneficiaries ought to certainly be making some sustaining year in and year out commitment to the fishery resource.

That is, I know, a very controversial thought, but I think facing the reality of the appropriations process and the obvious shifting positions of Republican and Democratic administrations in the White House over the last 30 years, no longer does the Mitchell Act seem to be the sense of a contract or obligation. That is just one example.

Now what the options are, I do not know, but I hope that in your discussions you will look at some of those possible options. I have asked other groups including your own organization to do this in the past, and I hope we can pursue that thought, at least exhaust it. If we find out it is not feasible, all right, but certainly let us at least give it some serious thought.

Thank you for listening. I appreciate your testimony.

Any other comments?

STATEMENT OF JOHN SMITH, VICE CHAIRMAN, COLUMBIA BASIN FISH AND WILDLIFE AUTHORITY, AND MEMBER, COLVILLE CONFEDERATED TRIBES

Mr. SMITH. My name is John Smith. I am a member of the Colville Confederated Tribes. I am the vice chairman of the Columbia Basin Fish and Wildlife Authority and am speaking on behalf of the authority today.

The authority is a coordinating body representing consensus positions of seven State and Federal fishery agencies and 13 Indian tribes. We represent in the Pacific Northwest the States of Idaho, Montana, Oregon, and Washington.

We are here to express our strong support for the installation of fish bypass systems at the Corps of Engineers dams on the Columbia and Snake Rivers. These fish are highly valuable to the region and the Nation, and equally important, the Columbia River salmon and steelhead are a priceless resource to the Indian tribes of the Pacific Northwest.

Through a coordinated series of major efforts, State, Indian tribes, Federal agencies, and others are moving forward to doubling

anadomous fish runs in the Columbia and its tributaries with regional moneys. The region is protecting existing habitat, restoring the great rivers and streams, building new hatcheries, and restricting fish harvests.

To put this in perspective, even doubling the present runs would represent less than half of the predam run levels. To realize the goals of doubling fish runs, the mortality of juvenile salmon and steelhead must be reduced at Corps of Engineers dams on the mainstem Columbia and Snake Rivers.

Through the Northwest Planning Council, a body created by Federal statute and the actions of Oregon, Washington, Montana, and Idaho, the Pacific Northwest has arrived at a consensus. Fish bypass systems must be completed at the Corps dams. These mechanical screens safely divert the young salmon on their downstream migration away from the injurious effect of the dams' turbines.

The fiscal year 1990 budget levels proposed by the administration are not sufficient to maintain the bypass construction schedules the region anticipates. In fact, the administration's budget would cause at least a 1-year lapse in bypass improvement at lower Granite, Little Goose, lower Monumental, Ice Harbor, McNary, and The Dalles dams. This lapse would add to existing delays that have put construction at these projects years behind schedule.

I would like to thank you for the time that you have given us here today and for the support that we know you have given everybody in the Northwest.

Thank you.

Senator HATFIELD. Thank you very much, Mr. Smith.

Thank you again, gentlemen.

[The statement follows:]

STATEMENT OF JOHN SMITH

I am speaking today on behalf of the Columbia Basin Fish and Wildlife Authority. The Authority is a coordinating body representing consensus positions of seven state and federal fishery agencies and 13 Indian tribes from the Pacific Northwest states of Idaho, Montana, Oregon and Washington. We are here to express our strong support for the installation of fish bypass systems at Corps of Engineers' dams on the Columbia and Snake rivers. These systems will significantly reduce the mortality to downstream migrating salmon and steelhead in the Columbia Basin. These fish are highly valuable to the region and the nation. And, equally important, the Columbia salmon and steel head are a priceless resource to the Indian tribes of the Pacific Northwest.

The loss of salmon and steelhead has had the greatest effect on Indian tribes whose traditional fisheries are located in areas of the basin above the hydropower projects. For millennia, the traditional life-styles of the Indians of the Columbia River centered on the availability of the fishery resource. The salmon and steel head afforded and continue to provide a dietary staple and a source of commerce. Moreover, these fish are central to the cultural fabric of the Columbia River tribes.

The annual personal income derived from in-river commercial landings of Columbia Basin salmon is at least $30–40 million. Moreover, Pacific commercial salmon fisheries, to which Columbia River stocks significantly contribute, account for an estimated annual catch value in excess of $500 million. Without question, this resource is an essential part of our Northwest economies.

Through a coordinated series of major efforts, states, Indian tribes, federal agencies and others are moving forward to double anadromous fish runs in the Columbia and its tributaries with regional moneys. The region is protecting existing habitat, restoring degraded rivers and streams, building new hatcheries, and restricting fish harvests. In Oregon, for instance, the State has enacted laws that prohibit sacrificing any significant number of salmon or steelhead to future hydroelectric develop-

ment. This policy is among the most protective of fishery resources to be found in the United States. Coupled with the efforts of Indian tribes and federal agencies, the states are also building salmon and steel head hatchery facilities in the upper Columbia Basin. Likewise, we are improving natural production of salmon and steel head with numerous riparian and in-stream habitat improvement projects.

Yet to realize the goal of doubling fish runs, the mortality of juvenile salmon and steelhead must be reduced at Corps of Engineers' dams on the main stem Columbia and Snake rivers. Through the Northwest Power Planning Council, a body created by federal statute and the actions of Oregon, Washington, Montana, and Idaho, the Pacific Northwest has arrived at a consensus; fish bypass systems must be completed at the Corps dams. These mechanical screens safely divert the young salmon on their downstream migration away from the injurious effects of the dams' turbines. In fact, rebuilding fish populations that reflect a balance of naturally spawning and hatchery stocks in rivers like the Grande Ronde and Imnaha in Oregon, and the Salmon and Clearwater in Idaho may be impossible if fish passage improvements are not made at Corps dams, particularly including the installation of bypass systems.

The fiscal year 1990 budget levels proposed by the administration are not sufficient to maintain the bypass construction schedule the region anticipates. In fact, the administration's budget would cause at least a one-year lapse in the regionally anticipated schedule for bypass improvements at Lower Granite, Little Goose, Lower Monumental, Ice Harbor, McNary, and The Dalles dams. This lapse would add to existing delays that have put construction at several of these projects years behind schedule.

Thank you for the opportunity to address this matter. I look forward to providing the subcommittees with additional information.

Oregon Coastal Ports

STATEMENT OF THOMAS J. MURRAY, CONSULTANT TO CURRY COUNTY, OR, PORTS OF SIUSLAW AND NEHALEM

ACCOMPANIED BY:

ZANE ZIEMER, COMMISSIONER, PORT OF SIUSLAW

F.E. KNIGHT, PRESIDENT, PORT OF NEHALEM

STANLEY A. JUD, SECRETARY, PORT OF NEHALEM

Senator Hatfield. Now I would like to invite the coastal port group from the State of Oregon, Mr. Tom Murray. Is this the 41st year or the 31st year? How many is this for you, Tom?

Mr. Murray. Well, Mr. Chairman, if we tell how many years this is, I think the both of us are telling our age. I would suspect it might be a bit over 30.

Senator Hatfield. Yes; a bit over 30?

Mr. Murray. Yes, sir.

Senator Hatfield. You would think we would get this thing done after a while, wouldn't you?

Mr. Murray. We will not run out if you do not, sir.

Thank you, Mr. Chairman. My name is Tom Murray. I am a consultant, as you so well noted, at the County of Curry under the Ports of Nehalem and Siuslaw. In keeping with your request for self-restraint, we have submitted all of the statements for the record and ask each here to summarize their statements only. If I may, I will introduce those that we have here, please.

Senator Hatfield. All of your written statements will be incorporated in the record, and I am happy to hear the oral testimony at this time.

Mr. Murray. Thank you, sir.

To my left is Commissioner Rocky McVay, Curry County; and to his left, Ellie Dumdi, board of commissioners of Lane County; to my immediate right is Wilbur Ternyik, an old friend from the Port

of Siuslaw; and to his right is Shane Knight from the Port of Nehalem; and Zane Ziemer to his right from the Port of Siuslaw; and our long-time friend, Stanley Jud.

With your permission, sir, I will introduce first Commissioner McVay.

STATEMENT OF ROCKY McVAY, CHAIRMAN, BOARD OF COMMISSIONERS, CURRY COUNTY, OR

Mr. McVAY. Thank you.

Mr. Chairman, my name is Rocky McVay. I am chairman of the board of commissioners of Curry County, OR, and I am also here representing the board of commissioners of Coos County, our neighbors to the north.

We are here to thank you for the congressional budget addition and directions made by you this past year in restoring dredging funds for the Federal navigational channel projects on the Rogue River at Gold Beach and the port at Port Orford in Curry County, OR, and for the reestablishment of the U.S. Coast Guard summer patrol this year on the Rogue River and on the Coquille River at Bandon in Coos County. We need your help again this year.

The President's budget recommendation for Congress for the Corps of Engineers for fiscal year 1990 fails to include annual maintenance dredging for funds for channel projects on the Rogue River, at Port Orford and on the Coquille River. We ask that Congress again restore adequate funds for the dredging at these three ports or direct the Corps of Engineers to reprogram its operation and maintenance recommendations to ensure essential and necessary dredging in fiscal year 1990.

The national administration's fiscal budget proposal to discontinue maintenance dredging for navigational projects with less than 25,000 tons of annual commerce appears to have been an arbitrary and capricious decision which will, if it stands, devastate the already threatened economy of southwestern Oregon.

In a letter to me of March 24, 1989, a copy of which is attached, Oregon's Governor Neil Goldschmidt states, and I quote:

> To assure you and the congressional committee that the dredging of not only the small ports that you will testify on behalf but dredging for all the ports in Oregon's coast is a major concern and priority of my office.

The balance of my statement outlines the adverse impacts on the economies of these small port communities that will result from the elimination of dredging. Without dredging, our ports will be out of business.

The administration's proposed 25,000-ton requirement favors the large and deep-draft ports and discriminates against the small ports. If dredging is discontinued in Port Orford, Premium Pacific Seafood will cease to do business in Oregon. The Port of Bandon is in somewhat of a similar situation. The same is true on the Rogue River and its 58,000 boat passenger trips each year.

Tourism is critical to the future of Oregon's south coast, and Army Corps of Engineers dredging is essential to our tourist industry to continue.

The administration's fiscal year 1990 budget proposal to discontinue maintenance dredging for navigational projects with less than 25,000 tons of annual commerce is inequitable. The Federal

Government accepted an implied responsibility for maintenance of the major channel systems when Congress authorized the construction of these works. There were many large-scale investments of public and private funds in docks, boat basins, fishing boats, fish receiving and processing plants and associated and related port facilities made in good faith based on the Federal investment for improvement for navigation.

The value of the commerce moving over the channel system is not considered inequity. The one remaining potential growth industry in southwestern Oregon is recreation and tourism, and it is tied in large part to port facilities which are properly maintained.

We appreciate the opportunity to be able to appear before this committee again. Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF ROCKY McVAY, CHAIRMAN, BOARD OF COMMISSIONERS, CURRY COUNTY, OR

My name is Rocky McVay. I am Chairman of the Board of Commissioners of Curry County, Oregon. I am also here representing the Board of Commissioners of Coos County, our neighbor to the north.

We are here to thank you for the Congressional budget additions and directions made by you this past year in restoring dredging funds for the federal navigation channel projects on the Rogue River at Gold Beach, and, in the port at Port Orford in Curry County; and for reestablishment of the U.S. Coast Guard summer patrol this year on the Rogue River and on the Coquille River at Bandon in Coos County.

We need your help again this year.

The President's budget recommendations to Congress for the Corps of Engineers for fiscal 1990 fails to include annual maintenance dredging funds for the channel projects on the Rogue River, at Port Orford and on the Coquille River.

We ask that Congress again restore adequate funds for the dredging at these ports, or, direct the Corps of Engineers to reprogram its Operation and Maintenance recommendations to ensure essential and necessary dredging in fiscal 1990, and to appropriate the $472,000 budgeted for the Chetco River.

The National Administration's fiscal budget proposal to discontinue maintenance dredging for navigation projects with less than 25,000 tons of annual commerce appears to have been an arbitrary and capricious decision which will, if it stands, devastate the already threatened economy of Southwestern Oregon, and will be disasterous to the boating public in that region.

In a letter to me of March 24, 1989, a copy of which is attached, Oregon's Governor Neil Goldschmidt states:

> "I want to assure you and the Congressional committees that the dredging of not only the small ports that you will testify on behalf, but dredging for all of the ports and Oregon's coast is a major concern and priority of my office. Put simply a decision not to dredge these ports is a decision to close them to further economic activity and will certainly lead to a situation where it will become nearly impossible to induce waterborne commerce to justify future dredging. Businesses that will use waterborne transportation want assurance before they invest and develop facilities that dredging will occur on a scheduled basis."

The balance of my statement outlines the adverse impacts on the economies of these small port communities that will result from the elimination of the dredging, including the loss of jobs and payrolls, the forced relocation of families, and our feelings on the inequity in the administration's proposal to discontinue maintenance dredging for navigation projects with less than 25,000 tons of commercial commerce.

Without annual maintenance dredging at the small ports at Brookings-Harbor, Gold Beach, Port Orford and Bandon, these entrances will, for all practical purposes, be closed by sand shoals in a short time. The Southwestern Oregon coast is battered at times by some of the strongest wind and wave action of any coastline in North America, and that weather brings regularly the sand that shoals up the entrances of the small shallow-draft ports. One extraordinary and severe winter storm coming out of the south-southwest will close the port at Port Orford to practicable and safe use by commercial fishing vessels.

The shoaled entrances decrease channel depths and widths and contribute to increased wave action breaking over the shoals, adding substantially to the hazards to navigation and to the potential loss of life and property. This necessitates continuous maintenance dredging.

Without maintenance dredging there will be no realistic alternative harbors of refuge for boats in distress in the ocean, and no alternative ports to enter for boats requiring moorage facilities. The ports to the north and south of each one of these ports are now generally full to capacity during the summer months.

In a letter to me of March 16, 1989, from Patrick J. Keough, P.E., Chief, Operations Division, Corps of Engineers Portland District, he states that the Corps has no

capability for dredging on the Coquille and Rogue Rivers and at Port Orford in fiscal 1990 although its dredge SANDWICK is tentatively scheduled for repair work estimated by the Corps at a cost of $331,000 to $367,000, to return it to operation after a major accident in the port at Bandon this past year. The SANDWICK is the principal dredge used each year at the port at Port Orford, and it has been used extensively on the Rogue River project.

The administration's proposed 25,000-ton requirement favors the large and deep-draft ports and discriminates against the small ports as the former have considerably more annual commerce than necessary to meet the 25,000-ton requirement whereas many of the small ports cannot.

The elimination of federal funds for dredging at the ports at Port Orford, Bandon and Gold Beach will definitely contribute to a substantial negative impact on the economy of these communities, including direct losses of investments, jobs and payrolls, the closure of fish processing facilities, and the forced relocation of families and the related reductions in service and retain establishments.

A letter of March 1, 1989, to me from David W. Showalter, PhD, President, Premium Pacific Seafoods in Port Orford, the only fish processing plant in that port, documents investment, jobs and payrolls, and states:

> "If dredging is discontinued in Port Orford, Premium Pacific Seafoods will cease to do business in Oregon. We cannot operate if the harbor is closed."

A letter received March 13, 1989, from Gary Anderson, President of the Port of Port Orford, states that 186 fishermen would be ".....directly effected by the dredging loss" during the peak season which ".....would effect approximately 114 families within the city of Port Orford, not evaluating the commercial,tourism aspect. This in reality would mean relocation and loss of 399 individuals in the city population." The present population of Port Orford is given at 1,020.

The port at Port Orford is essentially the last resort for maintaining and improving the basic economy of the community. The port at Bandon is in a somewhat similar situation.

In a letter of March 15, 1989, to me from Graydon Stinnett, owner of Bandon Fisheries, the only fish processor and the major industrial employer, he states:

> "Along with ever growing fishing regulations and increased cost of doing business, it would virtually put us out of the salmon business if the bar is not dredged annually. This would not only affect our plant personnel, but have and adverse financial impact on the entire community."

There is a contradiction in the administration's policy requiring 25,000 tons of commerce annually and its policy permitting new work projects under current law. The Portland District of the Corps of Engineers is now in the final stage of completing its plans and specifications of a Section 107 report for a 3-foot deepening of the entrance channel on the Coquille River at Bandon, while, at the same time, the administration is proposing to eliminate funding of the regular annual maintenance dredging of the existing navigation project.

In a letter to me of March 23, 1989, from Fred B. Cuda, President of Rogue Seafood Company in Gold Beach, a fish receiving and processing plan, he states:

> "Continuation of our port's dredging is critical to our business. As I mentioned, there is the costly trucking option to bring products to our plant. However, this is an option I hope we will not have to pursue, especially if our neighboring ports will have similar problems because of lack of dredging."

Letters to me from the three tour boat companies, Mail Boat Hydro Jet, Court's White Water Trips, and Jerry's Rogue Jets, operating on the world famous Rogue River, provide here documented testimony of the substantial direct and indirect income to the surrounding community from approximately 58,000 boat-passenger trips each year.

These three riverboat operations generate many millions of dollars annually in indirect income to the surrounding communities as most of the passengers stay in local motels and use local restaurants and other tourist related facilities.

In a letter to me on March 1, 1989, from Edward Kammer, President of Mail Boat Hydrojets, he places the relationship of tourism in boat traffic to dredging in his written statement, saying:

> "Tourism is critical to the future of Gold Beach and Army Corps of Engineers dredging is essential if our tourism industry is to continue."

In a letter to me of March 24, 1989, from Bill McNair, representing his own Jerry's Rogue Jets and Court's White Water Trips, he states:

> "The majority of our operation is dependent on access to the Rogue River from the inner harbor area at the Port of Gold Beach. Annually this area requires dredging to allow access to the Rogue River. To cease dredging of this channel will stop our operation from the Port of Gold Beach. The continued dredging of this harbor is mandatory for our survival at the Port of Gold Beach. The continued dredging is also required to keep the Port of Gold Beach as an operational part of our local economy."

Federal funding for annual maintenance dredging of the Chetco River at Brookings-Harbor will also be eliminated in fiscal 1991 if the administration's 25,000-ton requirement remains in effect as the recent cessation of waterborne forest products will drop the tonnage level below that now required.

The large-scale boating use of the small, shallow-draft port at Brookings-Harbor should, in itself, justify continued federal funds for dredging of the federally constructed channel system as it has had the second highest number of boats crossing the entrance during summer period of any Oregon coastal port, and then, second only to the deep-draft entrance of the mighty Columbia River, 290 miles to the north, which serves the major metropolitan region of Oregon and Southwestern Washington.

We feel the administration's fiscal 1990 budget proposal to discontinue maintenance dredging for navigation projects with less than 25,000 tons of annual commerce is inequitable for at least the following reasons:

1. The federal government accepted an implied reqponsibility for maintenance of the major channel systems when Congress authorized the construction of these works. The Corps of Engineers' reports recommending these improvements to Congress generally contained an estimated annual cost for the operation and maintenance of the improvements for the estimated life or amortization period, which was 50 years in many cases.

2. There were many large-scale investments of public and private funds in docks, boat basins, fishing boats, fish receiving and processing plants and associated and related port facilities made in good faith based on the federal investments for improvements for navigation.

3. The value of the commerce moving over the channel systems is not considered in equity, particularly that of the high-priced fish and shell fish products landed by commercial, charter and sports fishermen as compared to higher volume but lower valued commerce.

The small ports on the Southwestern Oregon coast are the hub of the communities in which they are located and are fast becoming the mainstay of their economic base. The forest products industry in this region is facing a severe and long-term decline due to the lack of sufficient public and private timber supply for manufacturing, and the commercial, charter and sports fishing industries are now well regulated.

The one remaining potential growth industry in Southwestern Oregon is recreation and tourism, and it is tied, in large part, to port facilities which are properly maintained and useable without hazard to navigation and human life.

We appreciate the opportunity of being able to appear before this Committee again. Thank you.

LETTER FROM NEIL GOLDSCHMIDT, GOVERNOR, STATEMENT OF OREGON

March 24, 1989

The Honorable Rocky McVay
Curry County Board of Commissioners
Curry County Courthouse
450 North Ellensburg
Gold Beach, Oregon 97444

Dear Commissioner McVay:

It is my understanding that you will be testifying before the U.S. House and Senate Appropriations Subcommittees on Energy and Water Development on April 4, 1989, to request restoration and continuance of federal funding for the U.S. Army Corps of Engineers operations and maintenance dredging for the small ports in Coos and Curry counties. This would include federal project work on the Coquille River at Bandon; Port Orford; Rogue River at Gold Beach, and Chetco River at Brookings Harbor.

I want to assure you and the Congressional committees that the dredging of not only the small ports that you will testify on behalf, but dredging for all of the ports and Oregon's coast is a major concern and priority of my office. Put simply a decision not to dredge these ports is a decision to close them to further economic activity and will certainly lead to a situation where it will become nearly impossible to induce waterborne commerce to justify future dredging. Businesses that will use waterborne transportation want assurance before they invest and develop facilities that dredging will occur on a scheduled basis.

The State through the Ports Division has been working with these ports to undertake comprehensive business planning, establish criteria for sediment standards for alternative dredge disposal options, and during April, 1989 will undertake a further economic analysis to assist the U.S. Army Corps in justifying a continuing dredging maintenance program in these harbors. Oregon's commercial fishing now again appears to be expanding and reaching historic highs in value and poundage, and future growth through exploitation of the whiting resource looks very positive. To support this,the State through it's Regional Strategies and Special Public Works Programs has invested over $3 million dollars in the last year alone in docks and marine repair facilities to support the commercial fishing industry.

I ask that you impress upon the Congressional committees that these trends will improve the economic base of these port areas and communities. The investments built around our ports are a critical element in the continued development of Oregon's commercial and sports fishing industries and provide one of the prime tourist attractions on our coastline. The committee in its analysis should not look only to the past for the justification for dredging but rather to what the State and communities are doing that will provide the economics that will support continued maintenance dredging.

I appreciate the cooperative efforts of the ports, counties, State, and federal government in this critically important issue of maintenance dredging and I pledge my continued support in this endeavor.

Sincerely,

Neil Goldschmidt
Governor

LETTER FROM DAVID W. SHOWALTER, PH.D., PRESIDENT, PREMIUM PACIFIC SEAFOODS

March 1, 1989

Rocky McVay, Chairman
Curry County Board of Commissioners
Box 746
Gold Beach, Oregon 97444

Dear Rocky,

In response to your request, here are some brief facts concerning my company, Premium Pacific Seafoods, Inc., and the effect on us of the dredging in Port Orford.

If dredging is discontinued in Port Orford, Premium Pacific Seafoods will cease to do business in Oregon. We cannot operate if the harbor is closed.

Here are some other facts which may be of interest:

* Our net investment into the Port Orford area since August, 1987 is about $300,000, virtually all of which is tied to location: plant improvements, equipment upgrades, and labor training.

* Our company is chiefly responsible for developing the sea urchin industry in Oregon, and at present, we are the sole sea urchin processor and buyer in the state of Oregon.

* Directly or as agents, we handled almost the entire sea urchin harvest in Oregon for 1988, consisting of 1.9 million pounds. More than 1.5 million pounds of this urchin was handled by us on our dock at Port Orford. Oregon's best urchin beds are located here in Port Orford. During the last half year, we have developed a prosperous urchin processing operation, which is tied directly to our local harvesting. We believe that our processing operation will provide year-round employment, with activity peaking in the summer months when the weather is best.

* We have been able to provide employment oportunities for anyone in the Port Orford area who wishes to work. This work is not high paid, but our average wages are about $4.50 per hour, well above the minimum wage. Our employment level has been growing steadily for the last three months. There are now more than 70 people on our active payroll list who have received paychecks since January 1, 1989. Although some of these people are relatively inactive, our payroll will exceed 50 active workers in

the current pay period, not counting divers, tenders, and fishermen.

- Port Orford is one of two communities in Oregon which is a federally designated poverty area. We are the largest local employer, providing more than 50 jobs in a depressed community of only 1,000 people.

- During the first two months of 1989, Premium Pacific has pumped more than $290,000 into the local economy. More than 95% of this amount has been paid to workers, boat captains, and local businesses. More than 75% has gone to payroll and to urchin harvesters.

- More than a third of our sales are directly international. Virtually all of our sales are to out-of-state customers, and most of the urchin products that we sell or process ultimately are sold to Japan, where they provide a significant source of foreign exchange. Our sales represent a precious infusion of foreign currencies into a depressed local economy.

- Based on the first two months of 1989, our annualized sales for the year in 1989 will be $1.9 million. We expect that this level of activity will increase steadily during the next several years, if our young company is able to continue its operation. Demand for our product is good, and future prospects are bright. We believe we will be able to provide work for anyone who wants it in the Port Orford area, on a continuing year-round basis, and that our company will be able to continue to provide a solid economic foundation on which to rebuild the depressed local economy.

Please feel free to inspect our corporate books, if you wish, to verify my figures. Our payroll data can be verified through our local public accountant, Mary O. Loan Bookkeeping Services, which provide payroll services for our company. If I can provide further useful information or be of other assistance, please let me know.

Cordially,

David W. Showalter, PhD
President

LETTER FROM GRAYDON STINNETT, BANDON FISHERIES

March 15, 1989

Rocky McVay, Chairman
Curry County Board of Commissioners
Box 746
Gold Beach, Oregon 97444

Dear Rocky:

This is in response to your question of what will happen to our operations here in the port at Bandon if the Corps of Engineers does not continue annual operations and maintenance of the federal navigation channel serving the port.

Bandon Fisheries is a seafood processing plant, employing a total of 170 people yearly. We normally have 60 to 80 full time and part time employees at any one time, except for our slack time between fishing seasons. Our annual payroll is over $500,000.

Because of adverse bar conditions, we are forced to buy most of our product elsewhere and truck it to our plant in Bandon. If the entrance bar was maintained year around, we would unload 3 to 4 million lbs of product annually.

During the summer months we unload salmon here in Bandon from a fleet of approx. 200 fishing vessels. Last year, we had 250,000 lbs delivered across the bar which amounts to almost 3,000 bar crossings from the salmon boats. We also unload black cod and bottom fish during the spring and summer months (up to 500,000 lbs).

We have thought of expanding our plant here in Bandon to include ice facilities to encourage shrimp and drag boats unloading here in Bandon, but because of the current bar conditions it is not feasible at this time and without dredging and maintenance of the bar, it would be completely out of the question.

Along with ever growing fishing regulations and increased cost of doing business, it would virtually put us out of the salmon business if the bar is not dredged annually. This would not only affect our plant personnel, but have an adverse financial impact on the entire community.

Sincerely,

BANDON FISHERIES

Graydon Stinnett

Graydon Stinnett

LETTER FROM FRED B. CUDA, PRESIDENT, ROGUE SEAFOOD CO.

March 23, 1989

Mr. Rocky McVey
Chairman Board of Commissioners
Curry County Court House
Gold Beach, OR 97444

Re: Port Dredging

Dear Rocky:

In response to your question of how important dredging is to our seafood processing business I would like to share with you the following observation:

1. Rogue Seafood Company is under new ownership and was acquired to process salmon, shrimp, crab and sea urchin;

2. Because of the bar problem entering our port most of our product will have to be trucked into our plant. Seafood processing is a relatively low margin business and freight-in charges will have a major impact on our bottom line profitability;

3. If we had the product at our dock Rogue could process approximately 15,000 lbs of Salmon, 7,000 lbs of green shrimp, 1,500 lbs of crab and 10,000 lbs of sea urchin per eight hour shift during the various fishing seasons;

4. The plant is currently employing only five workers for our small sea urchin program. This plant would employee approximately 30 processors per eight hour shift with a supply of the above products coming over our dock. As you know manufacturing jobs are very important to our community and the lack of product to our dock is preventing this employment.

Continuation of our port's dredging is critical to our business. As I mentioned, there is the costly trucking option to bring product to our plant. However, this is an option I hope we will not have to pursue, especially if our neighboring ports will have similar problems because of lack of dredging.

I appreciate your support in this fight for dredging. If you have any further questions please call me at the office, 247-4554.

Very truly yours,

Fred B. Cuda
President

LETTER FROM EDWARD KAMMER, PRESIDENT, ROGUE RIVER MAIL BOAT TRIPS

March 1, 1989

Rocky McVay, Chairman
Curry County Board of Commissioners
Box 746
Gold Beach, Oregon 97444

Dear Mr. McVay:

I am responding to your question about Army Corps of Engineers Dredging and how it affects my business. As you know my business is not located within the port moorage area but it is dependent on dredging. We do use the port area for picking up passengers and without the use of the port area my business would be critically affected.

We carry about 30,000 passengers up the Rogue River each season which relates to over a million dollars in direct sales. Most all of these passengers stay in our motels and RV parks and use our restaurants and other tourist related activities. I feel that my business generates at least 5 million dollars annually in indirect income to the surrounding community.

My business has 20 employees in the 6 Summer months and 7 employees work all year. Jobs are very important to our area at this time since the timber industry is declining rapidly.

Tourism is critical to the future of Gold Beach and Army Corps of Engineers dredging is essential if our tourism industry is to continue!

Sincerely,

Edward Kammer,
President

LETTER FROM BILL McNAIR, JERRY'S ROGUE JETS

3/24/89

County Commissioners Office
c/o Rocky McVay
Gold Beach, Ore. 97444

Dear Rocky,

In response to your recent request for facts and figures on our Rogue River operations. These figures will represent the combined operations of Jerry's Rogue Jets and Court's Whitewater.

Annually we take an excess of 28,000 passengers on a variety of Rogue River tours. This is approximately one million dollars in actual direct revenue to our operation. This figure can then be multiplied by 3 to figure the economic impact on the local economy.

The total revenue of the Gold Beach river operations is in excess of two million dollars. This would be our figures combined with Rogue Mail Boats. These figure do not include those of Charter Ocean boats, Commercial Guides, and numerous private fishing boats.

The majority of our operation is dependent on access to the Rogue River from the inner harbor area at the Port of Gold Beach. Annually this area requires dredging to allow access to the Rogue River. To cease dredging of this channel will stop our operation from the Port of Gold Beach. The continued dredging of this harbor is mandatory for our survival at the Port of Gold Beach. The continued dredging is also required to keep the Port of Gold Beach as an operational part of our local economy.

I hope these facts and figures will help keep the harbor open for years to come!

Yours Truly

Bill McNair

STATEMENT OF WILBUR TERNYIK, PRESIDENT, PORT OF SIUSLAW

Senator HATFIELD. Thank you, Commissioner.

Mr. MURRAY. I would like to introduce Wilbur Ternyik from the Port of Siuslaw.

Mr. TERNYIK. Yes, Mr. Chairman. My name is Wilbur Ternyik, and I am president of the Port of Siuslaw, OR. I am accompanied here today by Port Commissioner Zane Ziemer and Ellie Dumdi, a member of the board of commissioners of Lane County. We are here to support the Corps of Engineers' fiscal year 1990 budget request for $881,000 for operation and maintenance of the Siuslaw River navigation project and the Corps' proposed budget of $15,000 for funding under section 107, small navigation projects not requiring specific legislation.

This year we are continuing to expand our commercial fishing facilities. Demand has increased tremendously over the last year or so since we have completed the jetties, but we are really seriously concerned about the 25,000-ton limit that is being suggested and tied to our operation and maintenance.

Since the completion of the major extensions of the jetties at the river mouth in 1986, there has been a marked increase in the year-round use of the river by commercial fishing vessels as well as a like increase in the boating activity during the summer months.

We again extend our sincere appreciation for the committee's generosity in recommending continued Federal funding in the past for the Siuslaw River project.

Thank you very much.

[The statement follows:]

STATEMENT OF WILBUR E. TERNYIK

My name is Wilbur Ternyik. I am President of the Port of Siuslaw, Oregon. I am accompanied here today by Port Commissioner Zane Ziemer, and Mrs. Ellie Dumdi, a member of the Board of Commissioners of Lane County.

We are here to support the Corps of Engineers' Fiscal 1990 budget request for $881,033 for Operation and Maintenance of the Siuslaw River Navigation Project and the Corps proposed budget of $15,000,000 for funding under Section 107—Small Navigation Projects Not Requiring Specific Legislation.

The Port of Siuslaw is now reviewing the Corps of Engineers Portland District July 1981, Draft Detailed Project Report and Environmental Impact Statement for the possibility of its being updated and used without requiring a costly new study. This $165,000 draft report recommended a small boat basin at the mouth of the Siuslaw River as the most practical development to expedite an increase in commercial waterborne tonnage over the federal navigation project on the river.

The elimination of lumber barging from the port area following the deregulation of the railroads coupled with the national administration's new requirement for a minimum of 25,000 tons of commerce annually over the project, poses a recognized threat to future funding for operation and maintenance dredging of the channel system on the river.

It is our feeling that the Corps of Engineers' recommended small boat basin development and other facilities for the commercial fishery now being constructed by private interests will provide a substantial potential for increase in the use of the river by commercial fishing vessels and will warrant continued federal funding for annual dredging.

Since completion of the major extensions of the jetties at the river mouth in 1986, there has been a marked increase in the year-round use of the river by commercial fishing vessels as well as a like increase in boating activity during the summer months.

We again extend our sincere appreciation for this Committee's generosity in recommending continued federal funding in the past for the Siuslaw River Project. Thank you.

STATEMENT OF F. E. KNIGHT, PRESIDENT, PORT OF NEHALEM

Senator HATFIELD. Thank you.

Mr. MURRAY. Mr. Chairman, may I introduce Commissioner Shane Knight from the Port of Nehalem, please.

Mr. KNIGHT. Mr. Chairman, my name is F.E. Knight. I am president of the Port of Nehalem, Tillamook County, OR. Port Secretary Stan Jud is here with me today, and we are here to support the Corps of Engineers' fiscal year 1990 budget request for $15 million for funding section 107, small navigation projects not requiring specific legislation.

In the essence of time I am going to stop my oral dissertation now because you have our statements for the record, and I would like to close by thanking you and your committee for your generosity in the past and for allowing us to appear before you today on our project.

Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF F.E. KNIGHT

Mr. Chairman: My name is F.E. Knight. I am President of the Port of Nehalem, Tillamook County, Oregon. Port Secretary, Stanley Jud and I are here to support the Corps of Engineers' fiscal 1990 budget request for $15,000,000 for funding Section 107—Small Navigation Projects Not Requiring Specific Legislation.

Our story here is the same as it has been since 1984 when the Oregon Division of State Lands and the Corps of Engineers denied dredge and fill permits for a major marina development on the Nehalem River at Wheeler by private interests.

The permit issue is still in the courts. The developer won his case in the Oregon Supreme Court but the Division of State Lands still didn't issue the permit. The developer filed suit against the State in the Tillamook Circuit Court in July, 1988, and we are awaiting that decision.

The Corps of Engineers' Section 107 study for a comparatively minor channel deepening project on the river has been inactive since 1983.

We continue to support the Corps of Engineers' budget recommendations to Congress for funding its Section 107 program with the hope that the Nehalem River "107" project will be completed soon.

We again extend our sincere appreciation for this Committee's generosity in the past, and for allowing us to come before you on issues considered comparatively minor to the national concerns before you, but they are of critical importance to the economic and social wellbeing of the constituency we serve.

Thank you.

STATEMENT OF ELLIE DUMDI, COMMISSIONER, LANE COUNTY, OR

Senator HATFIELD. Thank you, Commissioner. We are happy to have you.

Mr. MURRAY. Mr. Chairman, may we introduce Commissioner Ellie Dumdi for just a quick statement, please, sir?

Senator HATFIELD. I would have introduced her first. [Laughter.]

Ms. DUMDI. Thank you, Mr. Chairman. I am Ellie Dumdi, County Commissioner from Lane County, OR. My district is West Lane, which includes the Port of Siuslaw at Florence and all of the coastal residents within Lane County.

My concern is the continuation of maintenance dredging for the port jetty system by the Corps of Engineers. The coastal economy is very fragile and is dependent upon constant accessibility through the jetty system. I want to assure you that this project has the support of the majority of the Lane County Board of Commissioners.

Thank you very much for your time and the opportunity to speak before you today.

Senator HATFIELD. Thank you.

Mr. MURRAY. Thank you, Mr. Chairman. That concludes our presentations. Thank you again, sir.

Senator HATFIELD. I will not ask the questions normally following testimony, because I will be meeting with you tomorrow. Thank you very much for being here.

PREPARED STATEMENT FOR THE RECORD

I also want to make part of the record a statement on the Umatilla basin project which has been submitted by the Confederted Tribes of the Umatilla Indians.

[The statement follows:]

STATEMENT OF THE CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

Chairman Bevill, the Confederated Tribes of the Umatilla Indian Reservation appreciate the opportunity to submit testimony in support of adding $2,050,000.00 to the Bureau of Reclamation's FY 1990 budget for the Umatilla Basin Project. This project will facilitate the Federal Government meeting its Trust and Treaty obligations to the Umatilla Tribe in the Umatilla River Basin in eastern Oregon.

The Umatilla Basin Project was authorized by the 100th Congress; no funds were appropriated. No funds for final design and construction were included in the Bureau's FY 1990 budget because the project was not authorized for construction until October 1988. The purpose of our testimony is to emphasize the importance of a congressional add-on to the Bureau's FY 1990 budget so construction can begin on the critical phase of the project.

The Confederated Tribes are aware of the deficit-driven "no new start" attitude - particularly toward "water projects" - that is increasingly apparent in Congress and the Administration. We are very concerned that the Umatilla Basin Project not be perceived or treated as just another "water project" or "new start."

The Umatilla Basin Project is designed to revamp an existing Federal water project that for more than 70 years has resulted in defacto abrogation of the Federal Trust Responsibility and the Treaty-guaranteed rights of the Umatilla people. We urge your thoughtful consideration of this distinction as your committee grapples with the need for continued water and energy development within the context of the present federal deficit.

Background

The Umatilla Basin Project is designed to remedy serious, long-standing water use conflicts in the Umatilla River Basin. Contrary to the solemn promises of our treaty with the U.S. Government, for more than 70 years the Federal irrigation project in the basin seasonally has dewatered the lower reaches of the Umatilla River. Salmon runs critical to our peoples' social, economic and cultural well-being were exterminated. This has pitted the tribe against the nontribal community in a desperate struggle for economic survival.

Instead of turning to the courts for relief, a decade ago the tribe sought and received from Congress funds for the Bureau of Reclamation to help tribal and nontribal people of the basin find a constructive solution to the conflict created by the Federal irrigation project. The Umatilla Basin Project, which would exchange water from the Columbia River for water presently being diverted from the Umatilla River, is the result of many years of effort and

compromise. It is not the most desireable solution. It is a pragmatic, least-cost solution.

Unlike many tribal/nontribal water use conflicts elsewere in the Nation, we are fortunate there is an abundance of water to solve the problem in the Umatlla Basin. The Columbia River, fourth largest river in North America, flows past our doorstep at an average daily rate of 180,000 cubic feet per second. All that is required is to trade nontribal irrigators a small fraction of this water so they may leave a like amount of Umatilla River water in the river during critical times of anadromous fish migration.

Project Benefits

The Confederated Tribes are not insensitive to the current serious federal budget deficit. Nonetheless, we believe the Federal Government has a prior obligation under our treaty to redress the serious problems caused by the Federal irrigation project which for more than 70 years has taken a high toll from our people.

The treaty obligation notwithstanding, tribal and nontribal people of the Umatilla Basin and the region have worked hard to devise a win-win project that is responsive to the current fiscal climate.

The Umatilla Basin Project is the result of a decade of local, state, regional and federal cooperation that Senator Mark Hatfield has called "a role model" for the Nation. It is a cost-effective investment that will enhance long-term biological and economic productivity.

(1) It has a favorable benefit:cost ratio, 1.65:1, using a discount rate of 8 7/8%. This is based upon benefits analysis conducted by the National Marine Fisheries Service and U.S. Fish and Wildlife Service in cooperation with the Oregon Department of Fish and Wildlife.

(2) It has a large local cost-share. The project is an integral part of an overall anadromous fish restoration program in the basin. Approximately 30% of the total program construction cost and more than 75% of total annual operation, maintenance and replacement costs will be local cost share.

Importantly, this local cost share is already approved. More than $8 million has already been invested in anticipation of the Federal investment authorized in the Umatilla Basin Project Act by the 100th Congress.

More than $20 million of complimentary nonfederal electric ratepayer funds have been obligated by the Northwest Power Planning Council pursuant to the fishery restoration provisions of the Pacific Northwest Electric Power Planning and Conservation Act of 1980. This includes:

(a) major capital construction costs for fish passage and hatchery facilities;

(b) providing the electrical energy to run Umatilla Basin Project water exchange facilities authorized by the 100th Congress.

(3) It has widespread benefits. The project will contribute an estimated 112,000 salmon and steelhead to tribal and nontribal fisheries throughout the Northwest. It will complement other federal and nonfederal investments in the region, including investments in fish passage facilities at Federal mainstem Columbia River hydroelectric projects.

(4) It will provide immediate return on investment. Unlike most federal water-related projects, the Umatilla Basin Project will return immediate economic benefits to the tribes, the local nontribal community, the region and the nation.

A substantial nonfederal investment has already been made in anticipation of the Umatilla Basin Project. Fish resulting from that investment are already returning to the Umatilla River. The first phase of the project could be completed within three years and would generate immediate benefits.

(5) It will provide badly needed economic development opportunities for the Umatilla Tribe, and badly needed economic diversification for troubled local nontribal economies heavily dependent upon agriculture.

(6) It will defuse the potential for costly, devisive litigation between tribal treaty-reserved rights to fish and nontribal irrigation interests which could devastate the local agricultural economy.

(7) It has strong, unanimous support of an unprecedented coalition of local, state and regional fisheries, municipal, civic and agricultural interests.

In sum, as Senator Hatfield stated in introducing the initial authorizing legislation, "...the Umatilla Basin Project presents the Federal Government a unique opportunity to meet its treaty obligations in a way which will turn a substantial economic profit to the local area, the region and the Nation."

FY 1990 Appropriations

The Umatilla Basin Project was strategically designed to be implemented in two discrete, interrelated phases. Total authorized cost is $42.4 million.

The first phase of the project is the principal object of our request for a $2,050,000.00 add-on to the Bureau of Reclamation's FY 1990 budget. This phase would cost approximately $9 million - $10 million, and has independent utility.

Phase 1 would provide for exchange of Columbia River water for Umatilla River water presently diverted at the lowermost major irrigation diversion on the main-stem Umatilla River. It could be operational by the fall of 1991 or the spring of 1992. This would:

(a) complement the investment of a comparable amount of nonfederal funds already in place;

(b) allow the thousands of migrating fish to enter the Umatilla River where they could be captured and transported around the dewatered reach of river;

(c) avoid potential conflict between irrigation and fisheries interests;

(d) return immediate economic benefits to the local area, the region and nation.

Bureau of Reclamation FY 1990 "Capability"

In its testimony before the Subcommittee earlier this year the Bureau indicated it had the "capability" to spend to spend $1.3 million on the Umatilla Basin Project in FY 1990. Approximately $0.865 million would be spent on final design and beginning construction on Phase 1 facilities. The remainder would be spent on final design of Phase 2.

According to BR Commissioner Duvall's testimony before the Subcommittee, the Bureau's statement of limited FY 1990 capability for the Umatilla Basin reflects its nationwide policy of focusing its resources on major construction projects already underway in other parts of the U.S.

Tribal technical staff, in consultation with others knowledgeable about the project and the need for expeditious action, have determined that $0.865 million is not adequate for the minimum effort on Phase 1 activities in FY 1990. We strongly urge Congress supplement the $1.3 million in the following ways:

(1) Retrofit existing pumping facilities to facilitate instream flow enhancement. $ 75,000

For a capital cost of approximately $75,000 existing pumping facilites can be retrofited for use to augment streamflows during critical fish migration periods.

The Northwest Power Planning Council has approved Bonneville Power Administration providing the electric power to run the pumps. The Federal investment of $75,000 would be a minor portion of the cost.

This interim flow enhancement is critical to protect existing fish runs and avoid conflict between fish and irrigation interests pending completion of the Umatilla Basin Project.

(2) Expedite installation of river flow and irrigation diversion monitoring system. $350,000

The Umatilla River Basin is a very complex hydrologic system. It is highly developed for irrigation, with numerous irrigation diversions. Synchronizing natural runoff, irrigation diversions, return flows and multiple annual emigrations and immigrations of migratory salmon and steelhead is a complicated, challenging and frequently contentious task.

The Umatilla Basin Project calls for installation of a sophisticated satellite-assisted water monitoring system. This system is urgently needed now to help tribal, state and federal water and fish managers cope with critically depleted instream flows and rapidly increasing salmon and steelhead runs.

This system also will facilitate enhanced water use efficiency in the basin and thereby minimize the annual operating cost of the Umatilla Basin Project water exchange facilities when constructed. The monitoring system will be tied into an existing Bureau of Reclamation system, thereby resulting in significant cost savings over an independent system.

(3) Lease and/or purchase of water rights to enhance instream flows. $250,000

The Umatilla Basin Project Act authorizes the Bureau to lease or purchase water from willing water right holders to enhance instream flows during critical fish migration periods. This is urgently needed until the Umatilla Basin Project comes on-line, and may prove to be a cost-effective way to reduce long-term project operating costs.

The Bureau has not aggressively pursued this critical activity to date. No funds for water leasing or purchase are included in the Bureau's FY 1990 capability statement of $1.3 million. It is very important that Congress provide BR with both the economic wherewithal and the political encouragment to inititate a pilot water lease/purchase program in FY 1990.

Water lease/purchase is critical for interim instreamflow enhancement pending completion of the Umatilla Basin Project. Conceivably it could affect final design and cost of the second phase of the project.

(4) Tribal technical support. $ 75,000

The Umatilla Basin Project planning documents call for a joint state, tribal, federal projects operations group to coordinate river/fish operations.

In the interim, river and fisheries operations are placing ever-greater demands on tribal resources. In addition, as the Bureau begins final design on the project, greater demands are placed on the tribe for technical input and review, and for multi-agency coordination and consultation.

Because the tribe's rights are at stake, the tribe must be intimately involved in project formulation, implementation and operation. The demand has far exceeded the tribe's supply of resources to meet it.

In the past the Bureau has provided modest funding to support tribal technical representation in the planning process through a formal cooperative agreement. The requested $75,000.00 would restore that process and would be used to secure people with the technical expertise to advise the tribes in difference aspects of the final design and beginning construction that will occur in FY 1990.

Chairman Bevill, the Confederated Tribes cannot emphasize strongly enough how important it is to move rapidly to implement the Umatilla Basin Project authorized by the previous Congress.

We urge your thoughtful consideration of our plea that the Umatilla Project properly should be exempt from any "no new start" approach to the FY 1990 appropriations process We urge your support for adding $2,050,000.00 to the Bureau of Reclamation FY 1990 budget for the Umatilla Basin Project.

We appreciate the opportunity to submit this testimony for the record.

Ohio River Basin Inland Navigation Projects

STATEMENT OF R. BARRY PALMER, EXECUTIVE DIRECTOR, DINAMO

ACCOMPANIED BY:

ROBERT N. CLEVELAND, PRESIDENT EMERITUS, OHIO RURAL ELECTRIC COOPERATIVES, INC. AND BUCKEYE POWER, INC.

MR. DIAMOND, COUNSEL, LIPSOME, WHITTEN & DIAMOND

Senator Johnston. Mr. Barry Palmer, executive director of DINAMO.

Mr. Palmer. Good afternoon, Mr. Chairman. I want to say up front that we are grateful for the leadership you have demonstrated back in 1983 and 1984 and again with the cost-sharing provisions and working with Senator Byrd on the Gallippolis Lock and Dam project and other projects. We are really grateful for your leadership and for the support we have had from this committee.

Let me introduce on my right and on your left my counsel from the firm of Lipsome, Whitten & Diamond; and on my left, the gentleman who is going to speak and present our testimony this afternoon, one of my directors from the board of directors of DINAMO, Mr. Robert Cleveland. His credentials are outlined in the information. He is president emeritus of the Ohio Rural Electric Cooperatives and Buckeye Power and 28 other affiliated organizations in Ohio.

Mr. Cleveland.

Mr. Cleveland. Thank you very much, Mr. Chairman. This year, Mr. Chairman, we wish to urge your support and that of your colleagues for Ohio Valley lock and dam modernization objectives outlined in the President's fiscal year 1990 budget. We are grateful for the support of this committee for the construction funding of the new Gallipolis locks on the Ohio River and the Grays Landing Lock and Dam on the Monongahela River.

The fiscal year 1990 budget provides new construction starts for Point Marion locks on the Monongahela River and the New Winfield locks on the Kanawha River, and we urge your strong support for full funding of these facilities.

Olmsted Lock and Dam

There is one project for which we request additional funding above the level indicated in the President's budget for 1990. This project is the Olmsted Lock and Dam authorized last year by the Congress which will replace the locks and dams 52 and 53 on the Ohio River on the Kentucky-Illinois border.

We have included a statement of capability from the acting Ohio River Division commander, Col. James A. Ward. We ask that the

letter containing these capabilities be included in the record also along with our full statement.

The present schedule of the Corps of Engineers calls for the initiation of construction in 1993 and the completion of the project in the year 2005, some 16 years from now. We are pressing the Assistant Secretary of the Army and the Corps of Engineers to initiate construction of the $800 million facility in 1991. If this committee provides additional moneys which total $5.9 million in fiscal year 1990 and earmarks in the legislation about $600,000 for real estate acquisition, this additional funding will advance by 1 year completion of the preconstruction engineering and design and enable a new construction start on the Olmsted project 2 years ahead of the schedule.

It is simply unacceptable that the new Olmsted project, already having received congressional approval, would take 16 years to complete. Futhermore, the increased cost of the project due to the length of the construction period and the factors of inflation will be nearly $600 million more. We could rebuild three or four additional projects for that kind of money. We urge your support, therefore, Mr. Chairman, for increased fundings for the Olmsted Lock and Dam project in fiscal year 1990.

Also, Mr. Chairman, we are requesting funding for development of an investment strategy for inland navigation modernization on the Ohio River navigation system. Last year the distinguished Congressman from West Virginia, Mr. Nick Joe Rahal, won approval of a resolution in the House Public Works Committee and Transportation Committee requesting the Corps of Engineers to develop such an investment plan.

Both the Corps and its constituency in the Ohio Valley need better tools to determine which locks and dams will need major improvements and when the timing for these improvements should occur to optimize development of the Ohio River system. We believe that about $500,000 should be appropriated to remain available until expended for this purpose.

In our view, potentially there are millions of dollars that can be saved in future years by providing the tools to make the right project selection choices in a timely manner.

On behalf of the DINAMO board of directors and membership, Mr. Chairman, we thank you for the opportunity to appear before this distinguished committee.

Thank you.

Senator HATFIELD. Thank you, Mr. Cleveland.

Does counsel have any remarks to make?

Mr. DIAMOND. No; I appreciate your time.

Senator HATFIELD. I would like to thank you again, Mr. Palmer, for your continuing work and that of your group represented here today by Mr. Cleveland.

In developing the programs in the inland waterway systems, helping in the initial cost-sharing agreement that finally was achieved and then your activity in developing public support along these riverways within the various and sundry communities, you have a very outstanding record in that kind of activity, and we want to commend you for it.

I must, of course, again reiterate what you have already heard me say to others before you, that we are in a real dilemma in more ways than one, but one of the dilemmas is that when we see moneys withdrawn from existing projects such as five ports along the Oregon coast for operation and maintenance to provide funding for new project starts in the President's budget, the closing of recreational areas, 31 in the State of California, to help provide these moneys to begin new starts, we find ourselves in the dilemma of ending commitments to existing projects at the expense of beginning new projects. Those tradeoffs, when you look at the composite of the Congress, I think will be found unacceptable.

We are looking then basically at the problem of how to develop additional revenues or new revenues within an ever-tightening budget situation. I am very hopeful that our international policies that can be worked out within the super power group that would help reduce the tensions on the international front could have some economic loosening up on some of these great needs on the domestic front.

I am always prone to remind ourselves of that great concert that President Eisenhower had when he looked at our national security in terms of the strength of our infrastructure as an important a component as the adequacy of an arsenal. He is the only President who has seen our national defense from that multifaceted perspective. He launched the interstate highway system 32 years ago in Kansas, and people forget that he entitled it an interstate highway and defense system because he saw it as a very fundamental part of our national defense.

Who knows what the figures are. I have had all kinds of figures thrown at me about this, but it is estimated by my figure here that we are at about somewhere between $400 and $500 billion shortfall to upgrade our infrastructure of this country by the year 2000. I am talking about $400 to $500 billion.

You saw the paper the other day at Covington, TN, a section of a bridge that fell into the river. Seven people were killed. We are told right now that over 45 percent of the Nation's 500,000 bridges, a bridge being designated as longer than 20 feet, need to be rehabilitated or replaced, and that 62 percent of our paved highways in this country are under grade and need rehabilitating and repairing.

Those are just a few examples outside of the waterway system, and they are, of course, directly related to it. They are all part of our fundamental infrastructure.

That is the deficit that we do not talk about in this country and one that will eventually have as big an impact, if not a greater impact, on the future prosperity of this country as the Federal Government's deficit problem because it is part of that deficit. We are not maintaining and creating that new wealth-producing kind of infrastructure necessary for our economy.

That is the big picture and the small picture, but at the same time that is where we are. So you come as to the choir. We sympathetic, empathetic, and supportive, working under greater constrictions than any time in my 22 years in the Senate. We will do our best under those circumstances.

Mr. PALMER. I worked on a special bridge replacement fund problem in another capacity back in 1977 and 1978, so I am aware you are talking about the magnitude of the need in terms of bridges or in terms of our national infrastructure. We have a huge deficit there, so we are very appreciative of your support, of your leadership that you have demonstrated over a long period of time in helping us and helping others in this problem.

Thank you very much, Mr. Chairman.

Senator HATFIELD. Thank you very much, Mr. Palmer.

[The statement follows:]

STATEMENTS OF ROBERT N. CLEVELAND

GOOD MORNING (AFTERNOON), MR. CHAIRMAN. I AM ROBERT N. CLEVELAND, PRESIDENT EMERITUS OF OHIO RURAL ELECTRIC COOPERATIVES, INC. AND BUCKEYE POWER, INC., AND OTHER AFFILIATED ORGANIZATIONS, BASED IN COLUMBUS, OHIO. PRIOR TO MY RETIREMENT IN JANUARY OF THIS YEAR, I WAS THE CHIEF OPERATING OFFICER OF THE 28 RURAL ELECTRIC COOPERATIVES IN OHIO AND SERVED IN THAT CAPACITY SINCE 1977. I HAVE BEEN PART OF THE RURAL ELECTRIC COOPERATIVES INDUSTRY FOR MOST OF MY PROFESSIONAL LIFE, IN KENTUCKY, IN COLORADO AND THEN NORTH CAROLINA. THE RETAIL SERVICE AREA OF THE MEMBERS OF BUCKEYE POWER COVERS 77 OF OHIO'S 88 COUNTIES AND SERVES APPROXIMATELY 260,000 CUSTOMERS, MOSTLY FAMILIES. I HAVE BEEN A MEMBER OF DINAMO'S BOARD OF DIRECTORS FOR MANY YEARS, MR. CHAIRMAN, AND THOSE OF US ASSOCIATED WITH ELECTRIC POWER GENERATION UNDERSTAND THE IMPORTANCE OF THE WATERWAYS, AND OF THE LOCKS AND DAMS, TO THE ECONOMY OF THE OHIO VALLEY, AND TO THE MANY FAMILIES AND BUSINESSES WE SERVE.

THIS YEAR, MR. CHAIRMAN, WE WISH TO URGE YOUR SUPPORT AND THAT OF YOUR COLLEAGUES FOR OHIO VALLEY LOCK AND DAM MODERNIZATION OBJECTIVES OUTLINED IN THE PRESIDENT'S FISCAL YEAR 1990 BUDGET. WE ARE GRATEFUL FOR THE SUPPORT OF THIS COMMITTEE FOR CONSTRUCTION FUNDING OF THE NEW GALLIPOLIS LOCKS ON THE OHIO RIVER AND THE GRAYS LANDING LOCK AND DAM ON THE MONONGAHELA RIVER. THE FISCAL YEAR 1990 BUDGET PROVIDES "NEW CONSTRUCTION STARTS" FOR POINT MARION LOCK ON THE MONONGAHELA RIVER AND A NEW WINFIELD LOCK ON THE KANAWHA RIVER, AND WE URGE YOUR STRONG SUPPORT FOR FULL FUNDING OF THOSE FACILITIES.

THERE IS ONE PROJECT FOR WHICH WE ARE REQUESTING ADDITIONAL FUNDING ABOVE THE LEVEL INDICATED IN THE PRESIDENT'S BUDGET FOR FY 1990. THAT PROJECT IS THE OLMSTED LOCK AND DAM, AUTHORIZED LAST YEAR BY THE CONGRESS, WHICH WILL REPLACE LOCKS AND DAMS 52 AND 53, OHIO RIVER, ON THE KENTUCKY/ILLINOIS BORDER. ATTACHED IS A STATEMENT OF "CAPABILITY" FROM THE ACTING OHIO RIVER DIVISION COMMANDER, COLONEL JAMES A. WARD. THE PRESENT SCHEDULE OF THE CORPS OF ENGINEERS CALLS FOR THE INITIATION OF CONSTRUCTION IN 1992 AND COMPLETION OF THE PROJECT IN 2005, SOME 16 YEARS FROM NOW. WE ARE PRESSING THE ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS) AND THE CORPS OF ENGINEERS TO INITIATE CONSTRUCTION OF THE $800 MILLION FACILITY IN 1991. IF THIS COMMITTEE PROVIDES ADDITIONAL MONIES WHICH TOTAL $5.9 MILLION IN FY 1990, AND EARMARK IN THE LEGISLATION ABOUT $600,000 FOR REAL ESTATE ACQUISITION, THIS ADDITIONAL FUNDING WILL ADVANCE BY ONE YEAR

COMPLETION OF THE PRE-CONSTRUCTION ENGINEERING AND DESIGN, AND ENABLE A NEW CONSTRUCTION START FOR THE OLMSTED PROJECT TWO YEARS AHEAD OF SCHEDULE.

IT IS SIMPLY UNACCEPTABLE THAT THE NEW OLMSTED PROJECT, ALREADY HAVING RECEIVED CONGRESSIONAL APPROVAL, WOULD TAKE 16 YEARS TO COMPLETE. FURTHERMORE, THE INCREASED COST OF THE PROJECT, DUE TO THE LENGTH OF THE CONSTRUCTION PERIOD AND THE FACTORS OF INFLATION, WILL BE NEARLY $600 MILLION MORE. WE COULD REBUILD THREE OR FOUR ADDITIONAL PROJECTS FOR THAT KIND OF MONEY. THEREFORE, MR. CHAIRMAN, WE URGE YOUR SUPPORT FOR INCREASED FUNDING FOR THE OLMSTED LOCK AND DAM PROJECT IN FY 1990.

ALSO MR. CHAIRMAN, WE ARE REQUESTING FUNDING FOR DEVELOPMENT OF AN INVESTMENT STRATEGY FOR INLAND NAVIGATION MODERNIZATION ON THE OHIO RIVER NAVIGATION SYSTEM. LAST YEAR THE DISTINGUISHED CONGRESSMAN FROM WEST VIRGINIA, MR. NICK JOE RAHALL, WON APPROVAL OF A RESOLUTION IN THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE REQUESTING THE CORPS OF ENGINEERS TO DEVELOP SUCH AN INVESTMENT PLAN. BOTH THE CORPS AND ITS CONSTITUENCY IN THE OHIO VALLEY NEED BETTER TOOLS TO DETERMINE WHICH LOCKS AND DAMS WILL NEED MAJOR IMPROVEMENT AND WHEN THE TIMING FOR THESE IMPROVEMENTS SHOULD OCCUR TO OPTIMIZE DEVELOPMENT OF THE OHIO RIVER SYSTEM. WE BELIEVE THAT ABOUT $500,000 SHOULD BE APPROPRIATED, TO REMAIN AVAILABLE UNTIL EXPENDED, FOR THIS PURPOSE. IN OUR VIEW, POTENTIALLY THERE ARE MILLIONS OF DOLLARS THAT CAN BE SAVED IN FUTURE YEARS, BY PROVIDING THE TOOLS TO MAKE THE RIGHT PROJECT SELECTION CHOICES IN A TIMELY MANNER.

ON BEHALF OF DINAMO'S BOARD OF DIRECTORS AND MEMBERSHIP, MR. CHAIRMAN, WE THANK YOU FOR THE OPPORTUNITY TO APPEAR BEFORE THIS DISTINGUISHED COMMITTEE.

Mr. Chairman and Members of the Subcommittee:

I am Robert Cleveland, President Emeritus of Ohio Rural Electric Cooperatives, Inc., and Buckeye Power, Inc., and other affiliated organizations, based in Columbus, Ohio. Prior to my retirement in January of this year, I was the Chief Operating Officer of the 28 rural electric cooperatives in Ohio and served in that capacity since 1977. I have been part of the rural electric cooperatives industry for most of my professional life, in Kentucky, in Colorado and then North Carolina. The retail service are of the members of Buckeye Power covers 77 of Ohio's 88 counties and serves approximately 260,000 customers, mostly families. I have been a member of DINAMO's Board of Directors for many years, Mr. Chairman, and those of us associated with electric power generation understand the importance of the waterways, and of the locks and dams, to the economy of the Ohio Valley, and to the many families and businesses we serve.

DINAMO is a multi-state, membership-based association of business and industry, labor, and state government leaders from the Ohio Valley states, whose singular purpose is to expedite the modernization of the lock and dam infrastructure on the Ohio River Navigation System. Our request for funding of lock and dam modernization actions in the Ohio Valley is as follows:

Recommendations for Fiscal Year 1990

(1) For the Gallipolis Modification Project on the Ohio River, $78,900,000 for continued construction.

(2) For the Grays Landing Lock and Dam Project on the Monongahela River (also known as the replacement of Lock and Dam 7), $25,600,000 for continued construction.

(3) For the Point Marion Lock Project on the Monongahela River (also known as the replacement of Lock 8), $17,900,000 for the initiation of construction.

(4) For the Winfield Lock Replacement Project on the Kanawha River in West Virginia, $20,800,000 to initiate construction.

(5) For the Olmsted Locks and Dam Project on the Ohio River, to replace Locks and Dams 52 and 53, KY/IL, $5,900,000 for continued advanced engineering and design work, with $600,000 to be earmarked for real estate acquisition.

(6) For the McAlpine Locks and Dam, $350,000 for preconstruction engineering and design.

(7) For the Lower Cumberland and Lower Tennessee Rivers Study, $1,370,000 looking toward determination of the feasibility of improvement to river bends on the Cumberland River and of modernization of the Kentucky Lock on the Tennessee.

(8) For Locks and Dams 2, 3, and 4 on the Monongahela River $450,000 for completion of condition studies and preparation of a Draft Feasibility Report.

(9) For the Marmet Lock on the Kanawha River in West Virginia, $715,000 for continued economic and environmental investigations.

(10) For continued progress on the Ohio River Main Stem Study, including Emsworth, Dashields, Montgomery Island and McAlpine Locks and Dams, $1,000,000. Of this amount, $250,000 should be earmarked for development of an investment strategy or Ohio River Navigation System modernization.

(11) For a new planning start for the Uniontown Locks and Dam, KY/IN/IL, on the Ohio River, $800,000.

(12) For initiation of a long-term strategic investment plan for development of he Ohio River Navigation System, $500,000, to remain available until expended.

Mr. Chairman, we wish to submit for the record three separate documents: The first document, Enclosure 1, is a copy of a letter from Colonel James A. Ward, Acting Commander, Ohio River Division, U.S. Army Corps of Engineers, stating the Fiscal Year 1990 funding capabilities for lock and dam construction, pre-construction engineering and design (PED) activities, and General Investigations studies for modernization of the Ohio River Navigation System. The other two documents, Attachment 1 and Attachment 2, are reports prepared for DINAMO by Marvin J. Barloon, Carlton Professor of Economics (Em.), Case-Western Reserve University, Cleveland, Ohio. These reports are titled, "Relieving Waterways Bottlenecks: Importance to the Coal Industry of West Virginia" and "Relieving Waterway Bottlenecks: Importance to the Coal Industry of Kentucky." Professor Barloon is preparing additional reports for DINAMO on other Ohio Valley states, and we will make these reports available to the Committee as soon as we have approved them.

These reports provide important insights into the relationship of the Ohio Valley waterways, and particularly DINAMO lock and dam modernization objectives, to the economy of the Ohio Valley states and the nation. Following are Executive Summaries of these two reports:

RELIEVING WATERWAY BOTTLENECKS:
IMPORTANCE TO THE COAL INDUSTRY OF WEST VIRGINIA
EXECUTIVE SUMMARY

The transportation of West Virginia coal on the Ohio River Navigation System has a tremendous impact on the state's economy, and that relationship will become more important as the increased demand for coal increases throughout the balance of the century. The river shipment of coal is of benefit to all coal mined in the state, including that shipped by rail. In December 1988 two major railroads, CSX Trasnportation and the Norfolk Southern Corporation, rescinded porgrammed rate increases on Applachian coal carried to Atlantic ports for export. Senator Jay Rockefeller of West Virginia extended his good offices to induce this rescission. The cancellation of the increases will save West Virginia coal an estimated $13.5 million in 1989 alone.

Waterways competition for export coal was a clear incentive for railroad restraint in these circumstances. Export coal can move by barge down the Ohio and Mississippi Rivers for export in the New Orleans area. In the 1970's, only about a million tons a year moved this way. But after 1980 the waterborne export movement rose irregularly to 9.4 million tons in 1986. About 4.3 million tons of West

Virginia coal took the waterway track to the Gulf in 1986, some for export and some for coastal utilities.

In 1986 West Virginia shipped 35,000,000 tons of coal to market via the river system. This coal had a mine value of $1,100,900,000. The three routes to markets via the river include 1) northbound movements on the Monongahela River through Locks and Dams 7 and 9, 2) northbound movements on the Kanawha River through the Winfield Locks, and 3) coal movements originating on the Ohio River moving downbound through Gallipolis, McAlpine, Locks and Dams 52 and 53, and the Kentucky Lock on the Tennessee River.

In 1986, Locks and Dams 7 and 8 transited 10.8 million tons of northbound coal, 9.2 million tons of it from northern West Virginia. Most of this coal was short haul, but some went to destinations in Tennessee and a portion even reached Louisiana. The average mine price in Marion and Monongahela Counties in 1986 was $32.27 per ton and, at this price, the coal shipments via Locks 7 and 8 represented income to the area of about $297.8 million. Some of this revenue accrued to other parts of the country, but the remainder comprised local payrolls and purchases. Probably not less than some $200 million was local income. While some of this coal originated in other than Marion and Monongalia counties, but the 9.2 million tons which transited the two locks in 1986 were equivalent to 43.9 percent of the total two-county coal production. At only $200 million as the local income so generated, this income amounted to $3,800 per household in the two counties.

The local impact of this respending (commonly called the "multiplier") is generally estimated as being about equivalent to the initial income. That means a doubling of such income, in this case to about $400 million. This is equivalent to $7,600 generated by coal shipped via Locks 7 and 8. Thus, the income generated by coal shipped through Locks 7 & 8 was just short of 30 percent of total household income in the Fairmont and Morgantown areas.

In 1986 12.5 million tons of coal exited via the Winfield Locks. There are six coal-producing counties either on the Kanawha River or contiguous with the river field were 28.3 percent of the production of these six counties. This coal had a value at the mine of $389.1 million. Probably something in the neighborhood of $260 million of this was direct local income, and, allowing for the multiplier effect of local respending for goods services, the income so generated in the six-county area probably amounted to some $3,250 per household.

In 1986, 13.1 million tons of waterborne West Virginia coal originated on the main stream of the Ohio River between the Pennsylvania border and the mouth of the Big Sandy. About one-half of this tonnage moved in relatively short hauls free from constraint by obsolete locks, but the remainder, 6.7 million tons, had to work its way through the Gallipolis Locks or the Olmsted reach, or both. Between West Virginia and Olmsted, of course, the coal had to transit the McAlpine Locks at Louisville. In addition, substantial tonnages were shipped to Tennessee River destinations. At the mouth of the Tennessee, this tonnage was affected by the limited capacity of the Kentucky Lock, now under study for capacity enlargement.

West Virginia's Port of Huntington, the largest coal shipping port on the U.S. inland waterway system, originated 14.3 million tons in 1986, produced in both southern West Virginia and eastern Kentucky. The Kentucky component of this tonnage, of cours , was correspondingly handicapped by obsolete and congested locks.

As a measure of the importance of the waterborne coal to the producing communities, the mining origins are dispersed among a large number of counties. A suitable indicator, however, may be derived from the values of coal production in the four producing counties (Brooke, Marshall, Mason, and Ohio) on the Ohio upstream from the mouth of the Kanawha and in three even larger producing counties in the hinterland of the Port of Huntington, that is, Boone, Logan, and Mingo.

At the average 1986 mine price for these counties, the value of the coal originated on the main stream of the Ohio was $417.9 million. The portion of this revenue which constituted local income in the mining areas was probably not less than $280 million, and, again recognizing the doubling via local respending, the estimated income per household generated by Ohio River shipments of coal from these counties approximated some $8,786. Setting aside, however, that portion of the river shipments which did not transit any of the obsolete and congested locks, the remaining 6.7 million tons which did transit them generated local income in the general magnitude of $4,500 per household in the affected counties.

RELIEVING WATERWAY BOTTLENECKS:
IMPORTANCE TO THE COAL INDUSTRY OF KENTUCKY
EXECUTIVE SUMMARY

The transportation of Kentucky coal on the Ohio River Navigation system has a tremendous impact on the state's economy, and that relationship will become even more important as the increased demand for coal increases in throughout the balance of this century. The National Coal Association projects the demand for U.S. coal, domestic and export, at 944 million tons for 1990 and at 1,181 million tons by 2000. Kentucky figures to benefit correspondingly from that kind of growth.

Kentucky ships more coal by river than any other state, and the water transportation alternative to rail and truck shipments has benefitted all coal production in the state. In December 1988 two major railroads, CSX Transportation and the Norfolk Southern Corporation, rescinded programmed rate increases on Appalachian coal carried to Atlantic ports for export. Waterway competition was a clear incentive for this rescision. Shippers can move the coal by barge down the Ohio and Mississippi Rivers via New Orleans. In the 1970's only about a million tons were exported via New Orleans. But after 1980, the riverborne export movement rose irregularly to 9.4 million tons. In 1986 it had a mine value of about $256.7 million.

In 1986 Kentucky shipped 37,946,000 tons of its coal on the Ohio River navigation system. This tonnage had a mine value of $978,333,000. After deducting the estimated portion of the coal mining industry's revenues expended in other localities and factoring into account the "multiplier" impact of local respending, the income from the sale of riverborne coal in 1986 averaged approximately $5,705 for each household in the 21 Kentucky counties which produced more than 1.0 million tons each. These 21 counties which produced 94.7 percent of all the coal mined in the state in 1986.

Eastern Kentucky coal shipped by water was 16,748,000 tons having a mine value of $441,812,000. It is estimated, factoring in the multiplier effects of local respending, that the riverborne coal resulted in about $4,509 in income for each household in the 13 eastern Kentucky counties (Bell, Breathitt, Floyd, Harlan, Knott, Knox, Leslie, Letcher, Magoffin, Martin, Perry, Pike and Whitley) which produced in 1986 over 1.0 million tons of coal each.

In Western Kentucky waterborne coal totalled 21,198,000 tons with a mine value of $536,521,000. Adjusting mine income for payments to suppliers and investors in other localities, and factoring in the the multiplier effects of local respending, waterborne coal mined in western Kentucky resulted in income of $7,383 for each household in the eight western Kentucky counties (Butler, Daviess, Henderson, Hopkins, Muhlenberg, Ohio, Union and Webster) which produced in 1986 over 1.0 million tons of coal each.

A modernized river navigation system for getting Kentucky's coal to distant markets at a low cost is a substantial factor in the quality of life and public services throughout the state. These public services include schools, hospitals, street and road maintenance, police and fire protection, and a variety of other services essential to personal security and the quality of life. One estimate projected that Kentucky coal shipped on the river generated direct state and local tax revenue of at least $59.6 million and indirect tax revenues of about $108.9 million. This total amounts to $124.35 for each of the 1,355,000 households in the Commonwealth of Kentucky.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, OHIO RIVER
CORPS OF ENGINEERS
P. O. BOX 1159
CINCINNATI, OHIO 45201-1159

ENCLOSURE 1

28 MAR 1989

Mr. Barry Palmer
Executive Director
DINAMO
Three Gateway Center
Pittsburgh, Pennsylvania 15222

Dear Mr. Palmer:

The enclosed tabulation revises the Fiscal Year 1990 funding capabilities for lock and dam construction, preconstruction engineering and design (PED) activities, and General Investigations studies as furnished to you in my previous letter dated 17 March 1989. Each capability in excess of the approved budget amount should be considered under the following qualifying language:

"The FY 90 Reagan Budget for the Civil Works Program of the Army Corps of Engineers was based on that Administration's support for high priority, economically justified planning, construction, and operation and maintenance of new and ongoing flood control and navigation projects. To allow for these priorities and meet deficit targets, funding was reduced or excluded for other, lower priority activities."

"The Bush Administration did not propose any specific changes to the Reagan Administration's Budget for the Army Civil Works Program. Therefore, the Civil Works budget is included in the $136 billion residual freeze category, and as a result, is subject to negotiation with Congress. While project and study capabilities reflect the readiness for additional work, any increase above the FY 90 Reagan Budget level for a project or study would require a corresponding offsetting reduction in other projects or programs within the residual freeze category so that deficit-reduction targets can be met."

I trust this information meets your present needs. Please let me know if I can provide any further data on our funding and project status.

Sincerely,

James A. Ward
Colonel, EN
Acting Commander

Ohio River Division
Fiscal Year 1990 Funding Capabilities

Studies

Name of Study or Project	Amount in FY 90 President's Budget	FY 90 Capability	Purpose of Additional Capability
Cumberland--Tennessee Rivers, KY, GA, AL, MS, NC, TN & VA	$1,000,000	$1,370,000	Advance completion of Upper Tennessee interim by 4 months.
Kanawha River Navigation, WV	715,000	715,000	No additional requirement.
Mon-Yough River Basin, MD, PA, & WV	450,000	450,000	No additional requirement.
Ohio River Main Stem KY, IL, IN, OH, PA, & WV	700,000	1,000,000	Advance completion of the Upper Ohio River interim by 4 months.
Uniontown Locks & Dam, KY, IL & IN	800,000	800,000	No additional requirement.
	Preconstruction Engineering and Design (PED)		
McAlpine Locks & Dam, IN & KY	350,000	350,000	No additional requirements.
Olmsted Locks & Dam, IL & KY	3,800,000	5,900,000	Advance completion of PED by 12 months.
	Construction		
Gallipolis Locks & Dam, WV & OH	78,900,000	78,900,000	No Additional requirement.
Grays Landing Lock & Dam, PA	25,600,000	25,600,000	No additional requirement.
Point Marion Lock & Dam, PA & WV	17,900,000	17,900,000	No additional requirement.
Winfield Lock & Dam, WV	20,800,000	20,800,000	No additional requirement.

RELIEVING WATERWAY BOTTLENECKS ATTACHMENT 1

IMPORTANCE TO THE COAL INDUSTRY OF WEST VIRGINIA

Prepared for:
DINAMO
Pittsburgh, Pennsylvania

By:
Marvin J. Barloon
Case Western Reserve University
Cleveland, Ohio

January 31, 1989

After delays of many years, action is now being taken to relieve serious bottlenecks in West Virginia's waterway system. Since World War II, major railroads serving the state have been modernized to computer-age standards. The new National Network for Trucks, 2,930 miles of it within West Virginia, links the state's modern highways to all regions of the continent, but the waterway system has been half forgotten. Modernization was well under way until the mid-1970's, when all progress came to a halt. Serious bottlenecks persist as lock-and-dam structures built in the days of the steam locomotive and the Model-T Ford continue to hamper West Virginia's access to favorable markets and sources of supply.

LOW COST OF WATERWAY TRANSPORTATION

Efficient transportation by water is essential to West Virginia's future. The waterways specialize in bulk commodities moved in large tonnages--coal, gasoline, fuel oil, chemicals, building materials, farm crops, and the like. For this kind of freight, waterway cost is incomparably low. In 1986 (the latest year reported), the U.S. inland waterways carried just short of 16.0 percent of the nation's freight, but they charged only 1.1 percent of the nation's freight bill. West Virginia participates in this advantage by means of three major waterways, the Ohio River on her boundary with Ohio and two serving the state's interior, the Monongahela on the north, reaching the Morgantown and Fairmont areas, and the Kanawha leading into the areas of Charleston and Montgomery.

PRIORITY PROJECTS

Four of the waterway blockages are in urgent need of relief. Monongahela River, Locks 7 and 8. On the Monongahela, a short distance north of Morgantown, are Lock-and-Dam structures 7 and 8. Completed in 1925, these structures are

grossly inadequate by modern navigation standards and so badly deteriorated that, in the absence of replacement, they may well have to be abandoned.

Kanawha River - Winfield. The old Winfield Locks (of 1937 vintage), near the mouth of the Kanawha, are now carrying five times the freight of the pre-war years, and congestion mounts.

Ohio River - Gallipolis. On the Ohio, a short distance downstream from the mouth of the Kanawha, the Gallipolis Locks-and-Dam, also completed in 1937 and for which replacement was recommended by the Army Corps of Engineers 20 years ago, are badly run down, congested, and hazardous to life and property.

Ohio River - Olmsted. West Virginia also has a big stake in a project far from her borders; the replacement of old Locks-and-Dams Nos. 52 and 53 near Olmsted, Illinois, virtually at the mouth of the Ohio. In 1986, 11.5 million tons of major commodities transiting the Olmsted reach were moving to and from West Virginia waters. The two antiquated structures, completed in 1928 and 1929, are supplemented by more recent temporary locks. The unreliable temporary locks will be well beyond their design service life before a replacement can be completed.

Uncertainties as to Timely Action

Relief will be long in coming. The earliest any of these replacements can be ready for service is 1995, and the Olmsted project cannot be finished before 1999 under the most optimistic assumptions. Congress has authorized all four, but construction has been started on only two: the Monongahela works and Gallipolis.

As for the other two (Winfield and Olmsted), construction appears probable but not certain. In the past, Congress has authorized many construction works throughout the country which were never built. In a period of budgetary stringency, such as the present, Congress is under strong pressures to defer construction starts and to delay completion by under-funding construction already under way. This possibility is somewhat relieved, however, by the present provision that 50 percent of the construction cost is to be paid out of receipts from the federal waterways fuel tax.

Meanwhile, traffic demand mounts at the old, congested locks while accidents and down times for repairs impose rising costs on West Virginia industries and employment. For example, just one recent accident at the

Gallipolis Locks tied up traffic for 17 days and imposed costs of some $2.0 million on the region's economy.

INFLUENCE OF WATERWAY COMPETITION ON RAILROAD RATES

Major riverborne commodity movements affecting West Virginia workers, investors, and consumers include coal, chemicals, gasoline, fuel oil, and steel. Coal is the largest of these. The river shipment of coal is of benefit to all coal mined in the state, including that shipped by rail. High rates imposed by railroads on shipments from mines for which the rails have little significant competition have been a burden on the coal industry throughout the 1980's. In this context, West Virginia's waterways provide wholesome competition.

In December, 1988, two major railroads, CSX Transportation and the Norfolk Southern Corporation, rescinded programmed rate increases on Appalachian coal carried to Atlantic ports for export. Senator Jay Rockefeller of West Virginia extended his good offices to induce this rescission. The cancellation of the increases will save West Virginia coal an estimated $13.5 million in 1989 alone.

Waterways competition for export coal was a clear incentive for railroad restraint in these circumstances. Export coal doesn't have to move by rail to Atlantic ports. Instead it can move by barge down the Ohio and Mississippi Rivers for export in the New Orleans area. In the 1970's, only about a million tons a year moved this way. But, after 1980, the waterborne export movement rose irregularly to 9.4 million tons in 1986. About 4.3 million tons of West Virginia coal took the waterway track to the Gulf in 1986, some for export and some for coastal utilities. There appears little doubt that the railroads set their Atlantic coastal export rates with their eye on the waterway alternative to the Gulf. Shippers of coal by rail thus have a real stake in modernized waterways.

IMPACT ON THE U.S. BALANCE OF PAYMENTS

Export Coal. Waterborne coal shipments from the Ohio Basin exert a double thrust towards a more favorable U.S. balance of payments. The 9.4 million tons exported via New Orleans in 1986 had a mine value of about $256.7 million, and, because of transportation and handling, the export value was even greater.

Restraint on Petroleum Imports.

An additional impact is exerted by shipments to U.S. electric utilities on the eastern Gulf Coast. The coal reaches these utilities via the Gulf

Intercoastal Waterway East, extending from New Orleans to Northern Florida. Thus, no transshipment is required in the long waterway haul from the Ohio Basin to the power plants. The waterway distance from Huntington to Mobile, for example, is 1,778 miles via the Mississippi. Via the Tenn-Tom the distance is 1,271 miles from Ashland to Mobile.

The Ohio Basin coal on the Gulf Coast is a direct substitute for petroleum fuels and thus an offset to imports. Coastal electric utilities are clearly in a position favorable to consumption of fuel oil and natural gas. Not only are these fuels produced in large volume in Texas and Louisiana, but, in addition, the coastal location is attractive to oil imports. The Ohio Basin coal displaces both petroleum product imports and domestic products refined from imported crudes.

The yearly savings in foreign exchange come close to $1 billion. In 1986, the total waterborne coal receipts from all origins at Gulf Coast utilities amounted to 15.1 million tons, over 90 percent from the Ohio Basin. This coal had a BTU content equivalent to 62.9 million barrels of residue fuel oil, equal to 31 days of petroleum product imports that year to the entire United States. At the current price of about $15.50 per barrel, the foreign exchange thus conserved amounted to approximately $975 million.

The northbound movements of West Virginia coal on the Monongahela River likewise contribute to a favorable U.S. balance of payments. A portion of this tonnage is shipped by rail from the Pittsburgh area to Lake Erie for export to Canada.

MONONGAHELA LOCKS 7 AND 8 - INCOME TO MINING COMMUNITIES

Monongahela River Locks 7 and 8 are of critical concern to northern West Virginia, especially to the Fairmont and Morgantown areas (Marion and Monongalia Counties). In 1986, these locks transited 10.8 million tons of northbound coal, 9.2 million tons from northern West Virginia. Most of it was short haul, but some went to Tennessee and a portion even reached Louisiana.

The average mine price in Marion and Monongalia Counties in 1986 was $32.27 per ton, and at this price, the coal shipments via Locks 7 and 8 represented income to the area of about $297.8 million. Some of this revenue accrued to other parts of the country, such as payments for equipment and supplies from distant sources and a portion of interest and dividend payments.

However, the remainder comprised local payrolls and purchases. It would appear reasonable to suggest that probably not less than some $200 million was local income.

ROLE IN THE TWO-COUNTY ECONOMY

Presumably some of this coal originated in other than Marion and Monongalia counties, but as a measure of magnitude, the 9.2 million tons which transited the two locks in 1986 were equivalent to 43.9 percent of the total two-county coal production. At only $200 million as the local income so generated, this income amounted to $3,800 per household in the two counties.

But, this factor understates the impact. Attention must also be given to the local spending (mining personnel and suppliers). This spending generates additional income for numerous local operations, such as retail stores, professional services, and public agencies (schools, safety forces, etc.). The local impact of this respending (commonly called the "multiplier") is generally estimated as being about equivalent to the initial income. That means a doubling of such income, in this case to about $400 million. This is equivalent to $7,600 per household in the two counties.

The average 1986 income per household in Marion and Monongalia Counties approximated $25,500. The $7,600 generated by coal shipped via Locks 7 and 8 was thus just short of 30 percent of total household income in the Fairmont and Morgantown areas.

The outlook for an increase is very favorable. In comparison with an all-commodity tonnage of 8.9 million (mostly coal) via Lock No. 8 in 1982, surveys by Robert R. Nathan and Associates and by GAI Consultants Inc., both under contract with the Army Corps of Engineers, project a tonnage of 13.0 million in the year 2000. Practically all of this projected increase consists of coal. The coal is of medium-sulphur content and, with suitable blending, is thus well-suited to pollution abatement objectives.

URGENCY OF EXPEDITIOUS PROGRESS ON THE MONONGAHELA

For the Fairmont and Morgantown areas, it is clear that old Locks 7 and 8 are a serious impediment to favorable prospects and that their failure would be a community setback bordering on disaster. These locks are only 360 feet long, whereas all others downstream on the Monongahela are 720 feet and those upstream

600 feet. For a standard tow of six barges, lockage through either Lock 7 or Lock 8 costs twice as much as through any of the other locks on this river.

Even more disturbing is the potential for failure of one of the old locks-and-dams. Engineers report at Lock 7 undermining of the dam apron over most of its length to depths up to nine feet and concrete in load-supporting walls deteriorated to depths of three feet so that wall sections could easily reach the failure level. Dewatering of lock chambers at the tow sites is impeded by the danger that, with the interior water pressure removed, the walls would collapse under the exterior load.

Replacement of Locks-and-Dams 7 and 8 on the Monongahela cannot possibly be completed before 1995. Further delay would be courting calamity, and it is to be earnestly hoped that the old locks and dams will survive that long.

THE WINFIELD LOCKS ON THE KANAWHA RIVER

Of the various waterway outlets to market for West Virginia coal, the old Winfield Locks on the Kanawha move almost as much as the main stream of the Ohio. In 1986, of the total shipped rail and river from Districts 3 and 6 (northern and central West Virginia), 45.0 percent was river shipment. (Shipments by rail from southern West Virginia are not reported). The Army Corps of Engineers reports West Virginia's total river shipments of coal in 1986 at 35.0 million tons, 27.1 percent of the state's production, including in the latter the large tonnages consumed within the state. Of the 35 million-ton total, 12.5 million exited via the Winfield Locks.

Like Locks 7 and 8 on the Monongahela, Winfield is virtually at West Virginia's doorstep. If present inadequate capacity is not enlarged, the major navigation improvements now programmed on the main stream of the Ohio will accrue benefits principally to other states, tending towards isolation of the interior of West Virginia from broader regional opportunities.

The Winfield Locks impose a constriction on river commerce comparable to a two-lane wooden bridge on Interstate 79. They are twin locks, each only 360 feet long, just enough to move one normal-sized barge (35' x 195') at a time. Thus a standard tow of several barges has to lock through in some five or six sections, a process taking about half a day. Meanwhile, other tows are tied up at the river banks awaiting their turn to repeat the process.

The Army Corps of Engineers reports that the average time waiting in line and locking at Winfield in 1984 was 6.7 hours. In 1985, this was up to 9.0 hours. Towboat operating costs are about $350 an hour, so a 9.0 hour wait incurs some $3,000 or more of totally unproductive expense. With about 4,000 tows moved through Winfield yearly, the annual cost to West Virginia industry amounts to $12.0 million or more.

This is a rising cost. The Corps projects a traffic demand at Winfield in the year 2000 of 24.1 million tons, up from 13.0 million in 1980 and 18. million in 1987.

Relief may be on the way. The budget submitted by President Reagan in January, 1989, included funds for starting construction of a new lock at Winfield in 1990. The proposed lock would be 110' x 800', large enough to move the traffic without multiple-locking. The earliest the new lock could be completed would be 1996 when congestion will probably have become very serious. Timely completion, however, is subject to federal budgetary uncertainties and possible funding deferment as Congress struggles to reduce the deficit.

CONSTRAINTS AT GALLIPOLIS, MCALPINE, AND OLMSTED

The delay costs at Winfield are compounded by those on the Ohio River. A large volume of coal via Winfield is consigned to more distant destinations in continuous movement via the additional outmoded lockages on the main stream, that is, Gallipolis, McAlpine, and the Olmsted reach at the mouth.

Replacement of the Gallipolis Locks has occupied a high priority in the Ohio River modernization program for many years. The larner lock at this site is the only 600-foot main lock remaining on the main stream of the Ohio between the Pennsylvania border and the Mississippi River. (The main locks at all other sites in this reach are 1,200 feet long). Because of its location immediately downstream from the mouth of the Kanawha, Gallipolis transits the large tonnages of freight moving both in and out of the Kanawha Valley and to and from the entire upper Ohio River all the way to Pittsburgh. In the absence of modernization, studies conducted by consulting agencies under contract with the Army Corps of Engineers project an average time loss waiting for lock access in the 1990's of 32.0 hours per transit, a congestion level prohibitive to much of the commerce. To exacerbate the problem, the location of the old locks with

respect to river currents is particularly hazardous to navigation. Most of the cargo transited at Gallipolis is coal.

Construction at Gallipolis as started in 1987 and, with expeditious progress at the full capability of the Corps, the new locks may be operational in 1992 or 1993, none too soon if a crisis is to be averted at this site.

An additional, but less immediate main stream constraint is emerging at the McAlpine Locks at Louisville. Expeditious progress at McAlpine will become urgent in the 1990's. Information available at this writing is insufficient to estimate the tonnages of West Virginia coal locked through the McAlpine works.

A summary of affected West Virginia coal tonnages at three lockage sites, including Winfield, in 1986 is presented in Table I.

TABLE I.

TONNAGES AND VALUES OF WEST VIRGINIA COAL

SHIPPED VIA OUTMODED LOCKAGE STRUCTURES ON THE KANAWHA AND OHIO RIVERS

1986

Lockage Structures	Tons	Values [1]
Winfield Only	3,161,000	$ 97,675,000
Winfield & Gallipolis	5,925,000	183,083,000
Winfield, Gallipolis, McAlpine & Olmsted	3,381,000	104,473,000
Totals	12,467,000	$385,231,000

Sources: U.S. Department of the Army, Corps of Engineers.
Energy Information Administration, U.S. Department of Energy.

It is clear form Table I that the above portion of the Winfield coal tonnage which moves also through one or more of the outmoded lockages on the Ohio adds up to 9.3 million tons, about 75 percent of the total. This tonnage is therefore subject to a double or triple handicap in reaching more distant markets, and it will become worse as congestion develops at the McAlpine Locks at Louisville. The program for relief at Winfield is thus integral with other modernization projects on the main stream of the Ohio River.

EFFECT OF WINFIELD COAL TRANSITS ON AREA INCOME

Coal transited at the Winfield Locks is a substantial source of livelihood in central West Virginia. There are six coal-pro[illegible]ing

counties either on the Kanawha River or contiguous with the river counties.[2] In 1986, the 12.5 million tons of coal shipped via Winfield were 28.3 percent of the production of these six counties. This coal had a value at the mine of $389.1 million.[3] Probably something in the neighborhood of $260 million of this was direct local income and, allowing for the multiplier effect of local respending for goods services, the income so generated in the six-county area probably amounted to some $3,250 per household.[4]

As congestion becomes progressively worse at the Winfield Locks and additional problems enlarge at Gallipolis and Olmsted, the future of this extensive community which includes the capital city of Charleston, will call ever more urgently for expedited progress in replacement of the antiquated works.

WEST VIRGINIA COAL SHIPMENTS ON THE MAIN STREAM OF THE OHIO

In 1986, 13.1 million tons of waterborne West Virginia coal originated on the main stream of the Ohio River between the Pennsylvania border and the mouth of the Big Sandy. About one-half of this tonnage moved in relatively short hauls free from constraint by obsolete locks, but the remainder, 6.7 million tons, had to work its way through the Gallipolis Locks or the Olmsted reach, or both. Between West Virginia and Olmsted, of course, the coal had to transit the McAlpine Locks at Louisville. In addition, substantial tonnages were shipped to Tennessee River destinations. At the mouth of the Tennessee, this tonnage was affected by the limited capacity of the Kentucky Lock, now under study for capacity enlargement.

West Virginia's Port of Huntington, the largest coal shipping port on the U.S. inland waterway system, originated 14.3 million tons in 1986, produced in both southern West Virginia and eastern Kentucky. The Kentucky component of this tonnage, of course, was correspondingly handicapped by obsolete and congested locks.

Table II presents the tonnages and values of coal which originated on the main stream of the Ohio in 1986 in West Virginia for transits via antiquated lockage structures.

TABLE II.

TONNAGES AND VALUES OF WEST VIRGINIA COAL

TRANSPORTED VIA OUTMODED LOCKAGE STRUCTURES ON THE OHIO RIVER

(ORIGINATIONS ON THE MAIN STREAM OF THE OHIO)

1986

	Tons	Values [5]
Gallipolis Only	2,861,000	$91,151,000
Gallipolis, McAlpine, and Olmsted	57,000	1,816,000
McAlpine and Olmsted	2,638,000	84,047,000
Gallipolis, McAlpine and Kentucky	687,000	21,888,000
McAlpine and Kentucky	453,000	14,433,000
Totals	6,696,000	$213,335,000

Sources: U.S. Department of the Army, Corps of Engineers. Energy Information Administration, U.S. Department of Energy.

EFFECT OF OHIO RIVER COAL ORIGINATIONS ON AREA INCOME

As a measure of the importance of the waterborne coal to the producing communities, the mining origins are dispersed among a large number of counties. A suitable indicator, however, may be derived from the values of coal production in the four producing counties on the Ohio upstream from the mouth of the Kanawha (Brooke, Marshall, Mason and Ohio) and in three even larger producing counties in the hinterland of the Port of Huntington, that is, Boone, Logan, and Mingo.

At the average 1986 mine price for these counties, the value of the coal originated on the main stream of the Ohio was $417.9 million. The portion of this revenue which constituted local income in the mining areas was probably not less than $278.6 million, and, again recognizing the doubling via local respending, the estimated income per household generated by Ohio River shipments of coal from these counties approximated some $8,786.[6]

SUMMARY

The magnitude of coal shipments via all waterway routings from the State of West Virginia in 1986 may be summarized as in Table III.

TABLE III.

SHIPMENTS OF WEST VIRGINIA COAL VIA RIVER

1986

Via	Tons	Mine Values (Millions)
Locks 7 & 8, Monongahela River	9,172,000	$ 297.8
Winfield Locks & Ohio River	12,467,000	389.1
Ohio River:		
Via Obsolete Locks	6,696,000	213.3
Other Ohio River	6,665,000	204.6
Totals	35,000,000	$1,100.9

Sources: U.S. Department of the Army, Corps of Engineers. Energy Information Administration, U.S. Department of Energy.

ENDNOTES

1 Values at average price at the mine, State of West Virginia in 1986 ($30.90 per ton) as reported by the U.S. Department of Energy.

2 The six counties are Boone, Clay, Fayette, Kanawha, Nicholas, and Raleigh

3 Coal production and average value in the six counties ($31.20/ton) as reported by the U.S. Department of Energy.

4 The U.S. Bureau of the Census reports 159,780 households in the six-county area.

5 Average value per ton of the four principal coal-producing counties on the Ohio River in West Virginia and tributary to the Port of Huntington in 1986 was $31.86 as reported by the Energy Information Administration, U.S. Department of Energy.

6 Local income in the production of riverborne coal is estimated at two-thirds of sales value, that is, of the $417.9 million sales, $278.6 million was earned locally from mine operations. Local respending of this income approximately doubles to about $557.2 million of local income, or $8,786 per household in the $63,421 households in these counties.

RELIEVING WATERWAY BOTTLENECKS ATTACHME

IMPORTANCE TO THE COAL INDUSTRY OF KENTUCKY

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March 7, 1989

After delays of many years, action is now being taken to relieve serious bottlenecks in Kentucky's waterway system. Other modes of transportation are up to date. Since World War II, major railroads serving the state have been modernized to computer-age standards. The new National Network for Trucks, 4,520 miles of it within Kentucky, links the state's modern highways to all regions of

the continent. But, the waterway system has been half forgotten. Modernization was well under way until the mid-1970's, when all progress came to a halt. Serious bottlenecks persist as lock-and-dam structures built in the days of the steam locomotive and the Model-T Ford continue to hamper Kentucky's access to favorable markets and sources of supply.

LOW COST OF WATERWAY TRANSPORTATION

Efficient transportation by water is essential to Kentucky's livelihood. The waterways specialize in bulk commodities moved in large tonnages - coal, gasoline, fuel oil, chemicals, building materials, farm crops, and the like. For this kind of freight, waterway cost is incomparably low. In 1986 (the latest year reported), the U.S. inland waterways carried just short of 16.0 percent of the nation's freight. But, they charged only 1.1 percent of the nation's freight bill.

Kentucky participates in this advantage by virtue of the state's 747-mile frontage on the Ohio and Mississippi Rivers, as well as by its tributaries, including the Big Sandy, the Green, the Cumberland, and the Tennessee.

These rivers and their waterway connections give Kentucky low-cost access to sources and markets extending to Pittsburgh, Chicago, and the Twin Cities on the north, to Kansas City and Tulsa on the west, and on south to the lower Mississippi Valley and the entire Gulf Coast from Florida to the Mexican border.

PRIORITY NAVIGATION PROJECTS ON THE OHIO RIVER SYSTEM

LOWER OHIO BASIN

Ohio River - Olmsted. Kentucky has an especially big stake in the projected replacement at Olmsted, Illinois, of old Locks-and-Dams 52 and 53. Located a few miles downstream from Paducah, Locks-and-dams 52 and 53 are Kentucky's principal gateway to the entire Mississippi River System and the Gulf Coast. The two antiquated structures, completed in 1928 and 1929, are supplemented by more recent temporary locks which will be well beyond their design service life before a replacement can be completed.

In 1987, these makeshift works transited over twice as much cargo tonnage as the entire St. Lawrence Seaway between Lake Ontario and Montreal, U.S. and Canadian combined, much of this massive traffic to and from Kentucky.

In 1988, Congress authorized construction of a new facility at Olmsted of adequate capacity for the mounting traffic load, but, in early 1989, no funds had yet been appropriated for this purpose. The project will require at least 10 years to complete.

Tennessee River - Kentucky Lock. This facility, near Gilbertsville, Kentucky, is the gateway between the main stream of the Ohio and the two major waterways to the south, the Tennessee River and the Tennessee-Tombigbee connection leading to the Port of Mobile. In the access of Ohio River commerce to the Tennessee-Tombigbee, the only additional lockage on the Tennessee is that at Pickwick Landing, upstream from the Kentucky Lock and a dual-lock structure with the main lock 110 ft. x 1,000 ft. The Kentucky Lock, only 600 ft. long, needs to be brought up to at least this standard. Because the Kentucky Lock has no auxiliary, when it was closed for rehabilitation for 104 days in 1986, traffic had to make an expensive detour via the Barkley Canal to and from the Cumberland River. Traffic demand at Kentucky has been growing rapidly, from transits of only 15.0 million tons in 1970 to 30.1 in 1987 and is expected to reach 39.0 million by 2000. Relief of this bottleneck is under study by the Nashville District of the Army Corps of Engineers.

Central Ohio Basin

Ohio River - McAlpine. The McAlpine works are especially notable for their location in the City of Louisville at the original historical barrier to Ohio River commerce, the Falls of the Ohio. These works are on the verge of being swamped by rapidly growing traffic, tonnage having risen from 33.0 million in 1970 to 54.0 million in 1987 and projected at well over 80.0 million by the time additional capacity can be provided.

McAlpine consists of a modern 1,200 ft. lock supplemented by an antiquated 600 ft. chamber of inadequate depth and excessive turbulence, opened in 1921 and sited under a movable bridge in a manner disruptive to traffic by both rail and water. For this reason, the 600 ft. lock is used only as a peak demand facility.

In early 1989, the Corps of Engineers was actively engaged in preparation of a feasibility report and environmental impact study looking towards provision of capacity at McAlpine adequate to forestall towards the end of the century an otherwise serious traffic crisis.

Upper Ohio Basin.

Ohio River - Gallipolis. On the Ohio River, about 38 miles upstream from Ashland, the Gallipolis Locks-and-Dam, completed in 1937 and for which badly run down, congested, and hazardous to life and property, hampering access by Kentucky industries to the Kanawha River Valley, the upper Ohio Basin, and the Pittsburgh area. Construction of modernized facilities got underway at Gallipolis late in 1987. Its opening to traffic is scheduled for 1996, subject, however, to sustained annual funding by Congress at the full capability of the Army Corps of Engineers.

Kanawha River - Winfield. The old Winfield Locks (also of 1937 vintage), near the mouth of the Kanawha, capable of moving only one "jumbo" barge at a time, are now carrying five times the freight of the pre-war years and are inadequate to the emerging traffic demand of the 1990's. Coal shippers state that congestion is already adding $0.37 per ton of cargo to the transit cost.

Major tonnages of Kentucky products, especially chemicals and petroleum products, utilize these locks for access to the Charleston, West Virginia, area. The President's budget, submitted to Congress in January, 1989, would provide funds for initiating construction at Winfield in April, 1990. Availability for navigation is projected for 1996, contingent on funding at full Corps capability.

Monongahela River - Locks 7 and 8. These two structures, completed in 1925, are grossly inadequate to modern navigation technology and so badly deteriorated that, in the absence of replacement, abandonment has been considered as a realistic alternative.

Eastern Kentucky mines ship coal via Locks 7 and 8, supplying approximately one-half of the coal burn of the Fort Martin generating station in northern West Virginia, essential to comply with West Virginia sulfur dioxide emission standards.

Construction of works of adequate capacity on this reach of the Monongahela was initiated in 1988, with completion anticipated in 1993, assuming Congressional funding at full Corps capacity.

OPPORTUNITY FOR KENTUCKY CONSTRUCTION INDUSTRIES

Projects Within Kentucky's Boundaries

While the principal benefit of these projects to the State of Kentucky will be the heightened long-term efficiency and reduced cost of transportation for the

state's industries and agriculture, the stimulus to Kentucky's construction industry should not be overlooked. Although construction will be a multi-state undertaking, Kentucky's proximity to the work puts the opportunities principally on Kentucky's doorstep.

The Kentucky Lock on the Tennessee lies entirely within the state. Olmsted and McAlpine are also within Kentucky, at least in a technical sense, in that the northern boundary of the state is on the north bank of the Ohio River. These three are thus distinctively Kentucky projects.

As for construction outlays, detailed engineering estimates place the Olmsted project alone at $775.0 million at 1988 price levels. Corresponding estimates have not yet been prepared for the Kentucky Lock or McAlpine. But, considering the long term of construction and continued moderate inflation, the total cost of the three will almost certainly amount to something like $1 billion. As a measure of magnitude, this may be compared with total non-residential building contracts awarded in the entire State of Kentucky in 1986, also just over $1.0 billion.

Upper Ohio Basin Construction.

Although not on Kentucky's borders, the project now under way and projected in the upper Ohio Basin also offer opportunity to the state's building industries. At 1986 price levels, the cost of construction at Gallipolis is estimated at a total of $336.0 million, and work on the Kanawha and Monongahela Rivers will add another $400.5 million, for a total of $736.5 million to be shared by Kentucky contractors with those of neighboring states.

The Waterways Fuel Tax.

Kentucky waterway shippers and barge operations are already paying a significant portion of the waterway construction outlays by means of the waterways fuel tax. Revenues from this tax are being accumulated in the federal Inland Waterways Trust Fund from which withdrawals are made to pay one-half the costs of all new construction on the inland waterways. Now 10 cents a gallon of diesel fuel, the waterways fuel tax is programmed to rise in stages to 20 cents in 1995. It is reasonable to expect that some of Kentucky's contribution to fuel tax revenues may be returned as payment for work performed by the state's construction industries and workers.

Diffusion of Benefits.

The income of federal construction expenditures will be diffused through-out the state, flowing to a wide variety of producers of equipment, materials, energy forms, technical services, and skills. Some sections of Kentucky, particularly in coal mining areas, are contending with high unemployment. This hardship will be eased by increased job openings and income flowing to communities in all sections of Kentucky.

The "Multiplier" Effect.

The diffusion of benefits will extend to many thousands of Kentucky households, most of them having no discernable relationship with the construction industry. The increment to income of the construction and supply personnel generates local respending by the direct recipients, creating additional income for local operations, such as retail stores, professional services, and public agencies (schools, safety forces, etc.). The local impact of this respending (commonly called the "multiplier") is generally estimated as being about equivalent to the initial income, that is, a doubling of such income.

The enhanced income will continue for a long time. Olmsted, alone, is projected as a 10-year undertaking. Work on the other projects will overlap in part with that at Olmsted, but the total outlook is one of a major boost to the state's construction industry very probably beyond the year 2010.

IMPORTANCE OF RIVER TRANSPORTATION TO THE KENTUCKY COAL INDUSTRY

Influence of Waterway Competition on Railroad Rates.

Kentucky ships more coal by river than any other state in the Union. The river shipment is of benefit to all coal mined in the state, including that shipped by rail. High rates imposed by railroads on shipments for which the rails have little significant competition have plagued the coal industry throughout the 1980's. In this context, Kentucky's waterways have strikingly contained the problem.

In December 1988, two major railroads, CSX Transportation and the Norfolk Southern Corporation, rescinded programmed rate increases on Appalachian coal carried to Atlantic ports for export. Waterway competition was a clear incentive for this rescision. Appalachian coal has an alternative outlet. Shippers can

move the coal by barge down the Ohio and Mississippi Rivers for export via the New Orleans area.

In the 1970's only about a million tons were exported via New Orleans. But, after 1980, the riverborne export movement rose irregularly to 9.4 million tons in 1986. Much of this was Kentucky coal. Kentucky mines shipped about 16.6 million tons of coal to the Gulf Coast in 1986. (This includes coal for domestic utilities as well as for export.) There appears little doubt that the railroads set their Atlantic coastal export rates with an eye on the waterway alternative. Shippers by rail thus have a real stake in modernized waterways.

Impact on the U.S. Balance of Payments

Export Coal. Waterborne coal shipments from the Ohio Basin exert a double thrust towards a more favorable U.S. balance of payments. The 9.4 million tons exported via the New Orleans area in 1986 had a mine value of about $256.7 million, and because of transportation and handling the export value was even greater.

For the remainder of the century, the outlook for export coal appears favorable. In this special Coal edition of February 1, 1989, the Journal of Commerce (New York) comments:

> "Demand for coal in Europe is capable of expanding by 150 million to 200 million tons annually before 2000, says an Appalachian producer-broker... and U.S. suppliers, who shipped about 73 million tons of coal to overseas customers in 1988, will be in prime position to capitalize on the potential increase in demand."

Delays at Atlantic ports caused by rail terminal congestion and, according to some shippers, by locomotive shortages, compare with an abundance of terminal capacity at New Orleans and Mobile to foreshadow major expansion of coal exports via the Gulf. This is good news to Kentucky mining communities plagued by excessive unemployment of capable and experienced mine personnel. The Olmsted project near the mouth of the Ohio River and a modernized Kentucky Lock on the Tennessee are critical to its fulfillment.

Restraint of Petroleum Imports. An additional boost to the balance of payments is exerted by coal shipments to U.S. electric utilities on the eastern Gulf Coast. The coal reaches these utilities via the Gulf Intracoastal Waterway East, extending from New Orleans to northern Florida. Thus, no transshipment is required in the long waterway haul from the Ohio Basin to the power plants.

Ohio Basin coal on the Gulf Coast is a direct substitute for petroleum fuels and thus an offset to imports. Coastal electric utilities are clearly in a position favorable to consumption of fuel oil and natural gas. Not only are these fuels produced in large volume in Texas and Louisiana, but, in addition, the coastal location is attractive to oil imports. The Ohio Basin coal displaces both petroleum product imports and domestic products refined from imported crudes.

The yearly savings in foreign exchange come close to $1 billion. In 1986, the total waterborne coal receipts from all origins at Gulf Coast utilities amounted to 15.1 million tons, over 90 percent from the Ohio Basin. This coal had a BTU content equivalent to 62.9 million barrels of residual fuel oil, equal to 31 days of petroleum product imports that year to the entire United States. At the current price of about $15.50 per barrel, the foreign exchange thus conserved amounted to approximately $975 million.

Unemployment Relief.

A number of proposals have been advanced for relief of eastern Kentucky's chronic unemployment. Officials of Clay County, for example, report unemployment late in 1988 of 11.9 percent, of McCreary County of 15.1 percent, and of Pike County of 12.1 percent. Proposals for relief include development of food processing, mobile home construction, and a variety of wood-products industries.

Expansion of coal mining would be among the most meritorious of these. Displaced workers are mainly former coal industry employees. Their reemployment would utilize existing skills at high wage rates and reduce the uprooting of families to new locations.

Waterway modernization points directly at this objective. Mine unemployment results from sluggish demand, low coal prices at the mine, and mine mechanization. Meanwhile, the outlook for worldwide coal consumption is very favorable, but most world and national markets are far away. Low cost transportation is thus essential for eastern Kentucky's share in a brighter future. Lower waterway and water-competitive rail charges will mean that delivered process can remain competitive while net realization at the mine is strengthened. As for mechanization, it will inevitably reach its limits and, with expanding demand and lower transportation charges, substantial mine reemployment is not an unrealistic expectation.

Eastern Kentucky's Waterbased Income.

Something of the bearing of the waterway carriage of eastern Kentucky coal on the livelihood of local communities is indicated in Table I. The figures understate the impact, however. They are for 1986, the latest year reported, and waterway carriage has been growing. Furthermore, the figures do not show the substantial revenues to railroads and trucking operations of the rail-river and truck-river movements. In 1986, in the nine mining districts of the Ohio Basin, 37.0 percent of the riverborne coal reached the river terminals by rail and 37.4 percent by truck.[1]

TABLE I.

TONNAGES AND VALUES OF EASTERN KENTUCKY COAL

SHIPPED ON THE OHIO RIVER AND ITS TRIBUTARIES

1986

Via Outmoded Lockage Structures:		
Lockage Structure	Tons	Mine Value[2]
Gallipolis Only	3,087,000	$ 81,435,000
McAlpine Only	1,646,000	43,421,000
McAlpine and Olmsted	7,061,000	186,269,000
McAlpine and Kentucky	525,000	13,850,000
Totals	12,319,000	$324,975,000
Via Modernized Locks & Open River	4,429,000	116,837,000
Total Riverborne Shipments	16,748,000	441,812,000

Sources: U.S. Department of Energy, Energy Information Administration, Coal Production, 1986.
U.S. Department of the Army, Corps of Engineers, Waterborne Commerce of the United States, 1986, Part 5, Section 2. State-by-state origins and destinations of cargo tonnages via the McAlpine Locks were provided by the Waterborne Commerce Statistics Center as tabulated by the Louisville District Navigation Planning Support Center.

The $441.8 million of mine revenue shown in Table I is principally income to residents of the mining areas. Some portion, of course, is paid to suppliers and investors in other localities. Very probably, however, not less than some $300 million is local income. The actual impact on the region's livelihood is about double this sum. The "multiplier" effect of local respending by mining personnel, local suppliers, and investors results in an aggregate community income in the neighborhood of $600 million. As a measure of magnitude, this amounts to about $4,509 for each household in the 13 eastern Kentucky counties which

produced in 1986 over 1.0 million tons of coal each, attributable exclusively to coal shipped from the area by water.[3]

Western Kentucky Waterbased Income.

Western Kentucky is bounded and interlaced by navigable rivers, and its coal industry is correspondingly a major user of river transportation. In 1986, 36.0 percent of the district's coal shipments went by rail, 47.1 percent by river.[4] The tonnages and values of the river shipments appear in Table II.

TABLE II.

TONNAGES AND VALUES OF WESTERN KENTUCKY COAL

SHIPPED ON THE OHIO RIVER AND ITS TRIBUTARIES

1986

Via Outmoded Lockage Structures:

Lockage Structure	Tons	Mine Value[5]
Ohio River - McAlpine	3,482,000	$ 88,129,000
Ohio River - Olmsted	7,053,000	178,511,000
Tennessee River - Kentucky	457,000	11,567,000
Totals	10,992,000	$278,207,000
Via Modernized Locks & Open River	10,206,000	258,314,000
Total Riverborne Shipments	21,198,000	$563,521,000

Sources: U.S. Department of Energy, Energy Information Administration, Coal Production, 1986.
U.S. Department of the Army, Corps of Engineers, Waterborne Commerce of the United States, 1986, Part 5, Section 2. State-by-state origins and destinations of cargo tonnages via the McAlpine Locks were provided by the Waterborne Commerce Statistics Center as tabulated by the Louisville District Navigation Planning Support Center.

As with eastern Kentucky, most of the $536.5 million revenue to western Kentucky from the riverborne coal constituted local income in the mining communities. Assuming conservatively that this amounts to some $350 million and factoring in the "multiplier" effect of local respending, indicates a magnitude of local income represented by riverborne coal in 1986 of about $700 million. This sum is equivalent to $7,383 for each household in the eight western Kentucky counties which produced in 1986 over 1.0 million tons of coal each.[6]

State of Kentucky Income Summary

To present the contribution of riverborne coal shipments to the income of the ıtire State of Kentucky in 1986, Table III summarizes the preceding two tabulations.

TABLE III.

TONNAGES AND VALUES OF KENTUCKY COAL

SHIPPED ON THE OHIO RIVER AND ITS TRIBUTARIES

1986

Via Outmoded Lockage Structures:

Lockage Structure	Tons	Mine Value
Gallipolis Only	3,087,000	$ 81,435,000
McAlpine Only	5,128,000	131,550,000
McAlpine & Olmsted	7,061,000	186,269,000
McAlpine & Kentucky	525,000	13,850,000
Olmsted Only	7,053,000	178,511,000
Kentucky Only	457,000	11,567,000
Totals	23,311,000	$603,182,000
Via Modernized Locks & Open River	14,635,000	375,151,000
Total State Riverborne Shipments	37,946,000	$978,333,000

SOURCES: U.S. Department of Energy, Energy Information Administration, Coal Production. 1986.
U.S. Department of the Army, Corps of Engineers, Waterborne Commerce of the United States, 1986, Part 5, Section 2.
State-by-state origins and destinations of cargo tonnages via the McAlpine Locks were provided by the Waterborne Commerce Statistics Center as tabulated by the Louisville District Navigation Planning Support Center.

After deducting the estimated portion of the coal mining industry's revenues expended in other localities and taking account of the "multiplier" impact of local respending, the income from the sale of riverborne coal in 1986 averaged approximately $5,705 for each household in the 21 Kentucky counties which produced more than 1.0 million tons each. These 21 counties produced 94.7 percent of all the coal mined in the state in 1986.

Riverborne Kentucky Coal and the Quality of Public Services

The contribution of Kentucky's riverborne coal to public services provided by state and local governments is especially notable. These include, for example, schools, hospitals, street and road maintenance, police and fire protection, and a variety of other services essential to personal security and the quality of life. According to a study by Energy Ventures Analysis, Inc., in 1983, the Kentucky coal industry paid direct state and local taxes amounting to $1.57 per ton of coal mined.[7] (This does not include federal income taxes, reclamation taxes and fees, workers' compensation, unemployment insurance taxes, social security taxes, or contributions to pension funds.)

In addition to these direct taxes, the mining industry generated incomes for mine workers, suppliers of equipment, materials, services, and electric energy, proprietors and other investors--all subject to state and local taxes. The

Energy Ventures Analysis report estimates the revenues from these indirect taxes at the equivalent of $2.87 per ton mined, for a total of state and local tax revenues per ton of $4.44.

At these rates, the Kentucky coal shipped on the rivers in 1986 generated direct state and local tax revenues of at least $59.6 million and indirect tax revenues of about $108.9 million. This is riverborne coal only and based, as it is, on 1983 tax levels, was probably higher in 1986. The total ($168.5 million) amounts to $124.35 for each of the 1,355,000 households in the State of Kentucky. A modernized river navigation system for getting Kentucky coal to distant markets at low cost is thus a substantial factor in the quality of life and public services throughout the state.

The Outlook

The National Coal Association projects the demand for U.S. coal, domestic and export, for 1990 at 944 million tons and for 2000 at 1,181 million. These are the Association's "moderate" projections. By 1987, the industry had already come close to the 1990 figure at 914.7 million tons. Kentucky produces more coal than any other state in the Union. Kentucky also ships more coal by river than any other state in the Union. Much that does not move by river moves by rail at water-competitive rates.

Whether or not the Kentucky coal industry shares in the favorable 2000 projections depends largely on upgrading the navigation system to modern standards. If the existing antiquated bottlenecks were to persist unrelieved, Kentucky would almost certainly not share in the projected growth. But, with expeditious progress in bringing the system up to the standards of modern navigation technology, the outlook for the state's industry will be substantially brightened.

ENDNOTES

1 U.S. Department of Energy, Energy Information Administration, Coal Distribution, January-December, 1986, Table 18.

2 Mine values at $26.38/ton, eastern Kentucky average, 1986, as reported by the U.S. Department of Energy.

3 The 13 counties are Bell, Breathitt, Floyd, Harlan, Knott, Knox, Leslie, Letcher, Magoffin, Martin, Perry, Pike, and Whitely. In 1986, these counties produced 93.3 percent of all the coal mined in eastern Kentucky. They include a total of 113,059 households.

4 U.S. Department of Energy, Energy Information Administration, Coal Distribution, January-December, 1986, Table 19. Shipments here attributed to rail include those to the Great Lakes and to tidewater. Western Kentucky is District No. 9. It is on the Ohio, Mississppi, Green, Cumberland, and Tennessee Rivers.

5 Mine values at $25.31/ton, western Kentucky average, 1986, per U.S. Department of Energy.

6 The eight counties are Butler, Daviess, Henderson, Hopkins, Muhlenberg, Ohio, Union, and Webster. In 1986, these counties produced 98.5 percent of all the coal mined in western Kentucky. They include a total of 94,806 households.

7 Estimate derived from data reported in Coal and the Kentucky Economy, Energy Ventures Analysis, Inc., Arlington, Virginia, November, 1985, under contract with the Kentucky Coal Association, the Eastern Kentucky Coal Association, and the Western Kentucky Coal Association, with the cooperation and assistance of the Kentucky Energy Cabinet.

Inland Waterway Navigation Projects

STATEMENT OF JOSEPH LEMA, VICE PRESIDENT, NATIONAL COAL ASSOCIATION

Senator Hatfield. I would like to invite Mr. Joseph Lema, vice president of the National Coal Association, who also will speak to the inland waterway system.

Mr. Lema. Thank you, Mr. Chairman. My name is Joseph E. Lema. I am vice president for transportation of National Coal Association. NCA's member companies account for approximately two-thirds of the coal produced in the United States. We appreciate deeply this opportunity to appear before you inasmuch as a critical need exists to construct replacements and to expand capacity for river navigation at certain locks and dams on the inland waterway system. Coal relies on safe, efficient and competitive waterways as avenues for reaching domestic utility and industrial markets and export markets accessible by vessels calling on deep-draft ports on the Gulf of Mexico.

About 150 million tons of coal now utilize barge transport yearly. One out of every five tons mined and shipped significant distances to domestic consumers and to ports for transhipment. We believe that through the year 2000 coal tonnage moved on the inland waterways will grow at an annual rate at about 2 to 3 percent per year. That corresponds to growth and coal production which we forecast to grow approximately 20 percent by the year 2000 compared with the mid 1980's yearly production levels.

Our request stems from a continuing analysis performed with particular intensity from the early 1980's and continuing as we proceed in the 1990's.

Simply stated, NCA urges and requests appropriations for construction of seven highly justified projects located on five river segments in eight States: Ohio, Illinois, Missouri, Alabama, West Virginia, Pennsylvania, Kentucky, and Indiana.

Each of those projects is warranted in view of barge traffic experience today. They are Gallipolis and Olmsted on the Ohio River; William Bacon Oliver on the Black Warrior River; Winfield on the Kanawha River; Grays Landing in Point Marion; locks and dams 7

and 8 on the Monongahela River; and the addition of a second chamber at lock and dam 26 on the Mississippi River.

These seven projects have been authorized, and they have been authorized under provisions of the water resources development legislation enacted in 1986 and in 1988.

Our mission now is to seek year-to-year incremental funding of project construction in order to achieve timely, orderly and effectively managed completion of the critical projects in the 1990's. We earnestly request that such funding be made available.

Mr. Chairman and members of the subcommittee, NCA applauds your leadership in moving forward with improvements to our Nation's waterways as founded in recent appropriations for that purpose.

Further, we wish to be on record as warmly appreciating the diligence and professionalism shown by the U.S. Army Engineers in the course of studies and design of critical waterways projects. We especially acknowledge the fact that both the Appropriations subcommittee and the U.S. Army Engineers have regularly allowed NCA to have input to the process of planning for continuation of safe, efficient and competitive waterways transport through scheduling of essential improvement projects.

Having said that, I would like to close by saying that NCA will welcome further opportunities to do so inasmuch as barge transport is vital to coal's competitiveness in U.S. and world energy markets.

In my testimony I have urged that appropriations also be approved for studies and design tasks at an added nine locations so that waterways improvements can be managed wisely and on a priority schedule both for the 1990's and in the longer run.

Mr. Chairman, I cannot help but relate to your comments with regard to the previous witness in which you referred to President Eisenhower and his great accomplishment in the enactment of the 1956 Highway Act which authorized the national system of interstate and defense highways, as you so appropriately mentioned.

I must add that I had the privilege of being an employee of the U.S. Bureau of Public Roads in the 1960's when that highway with the Federal-State partnership became a reality or started to become a reality.

I would simply say, Mr. Chairman, that I believe we have a national system of interstate and defense waterways that we cannot help but preserve for the good of our Nation.

[The statement follows:]

STATEMENT OF JOSEPH E. LEMA

Mr. Chairman and members of the subcommittee, my name is Joseph E. Lema. I am vice president for transportation of the National Coal Association (NCA). NCA represents producers, sellers and consumers of coal and other organizations associated with America's coal industry. Our member companies account for approximately two-thirds of total coal production in the U.S.

SUMMARY OF TESTIMONY

NCA requests your favorable consideration for appropriations which will enable timely, orderly completion of construction to improve locks and dams at 7 locations on the inland waterways and for appropriations that will allow early completion of studies as well as design plans, specifications and estimates for lock and dam improvements at an additional 9 locations. These 16 locations were identified early in this decade by NCA as critical locations with regard to lock and dam improvements which are needed to assure that our nation's waterways will continue to provide for safe, efficient and competitive movement of bulk commodities, including coal, both for domestic consumption and for transshipment utilizing deep draft ports along the Gulf of Mexico where cargo is transferred to ocean vessels for coastwise and export shipments. Those projects are:

Rivers	Construction Of Projects Authorized In 1986 & 1988	Completion Of Studies And Design P.S.& E's
Ohio	Gallipolis L&D	McAlpine L&D
Ohio	Olmsted L&D	Montgomery L&D
Ohio		Dashields L&D
Ohio		Emsworth L&D
Black Warrior	William Bacon Oliver L&D	
Mississippi	L&D 26 (add 2nd chamber)	
Monongahela	Gray's Landing (L&D 7)	L&D 2
Monongahela	Point Marion (L&D 8)	L&D 3
Monongahela		L&D 4
Kanawha	Winfield L&D	Marmet L&D
Tennessee		Kentucky L&D

NCA recognizes that our nation has a highly valuable asset in our interconnected system of navigable inland waterways, one which we must not neglect or allow to deteriorate in its capacity for providing effective transportation. We realize that there are 167 locations where locks and dams control the safety and efficiency of commercial navigation; and we have identified fewer than 10% of those as being obsolete and critical in regard to replacement and expansion with respect to the accommodation of coal shipments that already exceed 150 million tons per year, and are forecast by the U.S. Army Engineers to grow by about 2% to more than 3% annually to the year 2000. None of this is intended to suggest that the 16 projects represent the only construction warranted, yet they are key.

EFFICIENT BARGE TRANSPORTATION IS CRITICAL

Efficient barge transportation is critical to success in bringing coal to domestic utility and industrial consumers and to deep draft ports located at the Gulf of Mexico that are engaged in cargo transshipments in which coal is transferred to vessels operating in coastal and world trade. That success, namely full utilization of America's coals, will directly benefit consumers through lower rates for electricity, improve our coal exports through greater competitiveness among inland coal carriers, and make U.S. manufactures which consume electricity in their production more competitive in international trade.

About one out of every five tons of coal shipped for significant distances from the mines to coal consumers or to ports involved in cargo transshipments now utilizes the inland waterways system. Such intermodal shipments involve coal that is produced in eastern, midwestern, and western coal fields. It is obvious that coal mined in Appalachian and Illinois Basin coal fields is likely to seek river transport when one considers the proximity of some of those mines to the Mississippi River, the Ohio River, and the Upper Ohio River Basin tributaries, and the fact that coal produced in Alabama has ready access to the Warrior-Tombigbee River System. However, it is also apparent now that some coal produced in the west, although that region typically has no major navigation rivers at hand for barge coal traffic, still is handled intermodally by rail carriers joining water carriers operating on the Mississippi and Ohio Rivers. Today, the principal criterion for selection of the route for shipping coal clearly is not simply the shortest distance from mine to destination; rather, it is the least costly route that may be available, with intermodal rail and water carrier options to all-rail transportation strongly influencing the choice by virtue of its competitiveness where that is practicable.

That fact underscores the importance of keeping our nation's 11 thousand miles of commercially navigable inland waterways in sound condition with regard to waterways capacity as governed by 167 locks and dams, many of which are about 50 years old, in some instances are physically deteriorated, and at a number of locations are obsolete with respect to lockage capacity and efficiency, with serious delays encountered by towboats with their crews and barges standing idle for hours waiting to clear the lock chambers. The U.S. Army Engineers forecasts that total waterways traffic will grow between 0.7% and 2.1% annually to the year 2000, and that coal traffic will grow at an annual rate between 1.9% and 3.2%. NCA finds that to be reasonable in view of the attractiveness of water carrier transportation for the movement of coal and our new forecasts of coal production, consumption and exports from 1990 to the year 2000. We forecast, in a moderate growth scenario, that coal production of 919 million tons in 1987 will grow to 1,108 million tons or more than 1.1 billion tons annually, an overall increase of 20.6% in yearly production, by the year 2000. Mr. Chairman and members of the subcommittee, I have incorporated in my testimony, a tabulation which summarizes coal consumption by sector, exports and coal production by region for 1980, 1985 and 1987 with forecasts to 1990, 1995 and 2000 under low, moderate and high growth scenarios.

NCA Forecast of Coal Consumption by Sector

(millions of tons)

	Historical			1990			1995			2000		
	1980	1985	1987	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
Domestic Consumption:												
Electric Utilities	569	694	718	742	752	763	775	796	813	822	872	919
Metallurgical	67	41	37	38	38	38	35	37	38	31	34	36
Industrial/Retail	74	83	82	82	86	88	84	91	100	84	91	103
Total	**710**	**818**	**837**	**862**	**876**	**889**	**894**	**924**	**951**	**937**	**997**	**1058**
Exports	**92**	**93**	**80**	**76**	**87**	**97**	**86**	**100**	**112**	**98**	**116**	**129**
Total Consumption and Exports	**802**	**911**	**917**	**938**	**963**	**986**	**980**	**1024**	**1063**	**1035**	**1113**	**1187**

NCA Forecast of Coal Production

(millions of tons)

Production:												
Appalachia	444	425	444	441	460	477	449	479	507	492	532	573
Interior	177	189	201	204	208	209	222	229	233	217	237	250
West	209	270	274	291	293	298	305	312	319	321	339	359
Total	**830**	**884**	**919**	**936**	**961**	**984**	**976**	**1020**	**1059**	**1030**	**1108**	**1182**
Imports	**1**	**2**	**2**	**2**	**2**	**2**	**4**	**4**	**4**	**5**	**5**	**5**
Total Production and Imports	**831**	**886**	**921**	**938**	**963**	**986**	**980**	**1024**	**1063**	**1035**	**1113**	**1187**

Notes: All data include bituminous, sub bituminous, lignite and anthracite coals.
Historical consumption and production are not equal because of stock changes and statistical discrepancies.

CERTAIN CONSTRUCTION PROJECTS ARE IMMEDIATELY WARRANTED

With no intent to suggest that our requests represent a totality of projects that are justified, NCA has identified 16 construction projects which are immediately warranted and critical for the movement of U.S. coal. Those projects, the first 7 of which have been authorized for construction under water resources development legislation enacted in 1986 and 1988, are exceptionally important for safe and efficient coal movement by barge. The other 9 projects also are vital for effective water carrier transportation as we move into the 1990's; therefore, a timely, orderly management process will be required to enable early completion of preliminary studies, and preparation of plans, specifications and estimates that are a precursor to construction of navigation improvements of such magnitude.

The projects requested by NCA are on the Ohio, Black Warrior, Mississippi, Monongahela, Kanawha, and Tennessee Rivers and are located in the states of Ohio, West Virginia, Kentucky, Illinois, Pennsylvania, Alabama, Missouri, and Indiana. Looking at the latest available statistics published by the U.S. Army Engineers with regard to waterways traffic, which are for 1986, 115 million tons of coal out of 196 million tons of all commodities moved on the Ohio River that year, 10 out of 18 million tons on the Black Warrior River, 11 out of 74 million tons on the Mississippi River above its juncture with the Missouri River north of St. Louis where L&D 26 is located, 25 out of 30 million tons on the Monongahela River, 13 out of 17 million tons on the Kanawha River, and 22 out of 40 million tons on the Tennessee River south of its juncture with the Ohio River. ,Our request for appropriations to permit construction or advance planning and design work covers 16 specific locations requiring replacement and expansion of locks and dams on 6 rivers in 8 states identified in this testimony, a result of efforts undertaken by NCA utilizing information acquired from the U.S. Army Engineers from the time of the National Waterways Study in the early 1980's through the present. Mr. Chairman and members of the subcommittee, NCA wishes to commend the U.S. Army Engineers on its diligence and professionalism in the course of analyzing waterways problems and needs as well as giving water carriers and shippers access to data and opportunities to furnish inputs to its studies, especially during the 1980's, key years in removing stalemates to waterways improvements encountered in the previous decade. Our request consists of:

Rivers	Construction Of Projects Authorized In 1986 & 1988	Completion Of Studies And Design P.S.& E's
Ohio	Gallipolis L&D	McAlpine L&D
Ohio	Olmsted L&D	Montgomery L&D
Ohio		Dashields L&D
Ohio		Emsworth L&D
Black Warrior	William Bacon Oliver L&D	
Mississippi	L&D 26 (add 2nd chamber)	
Monongahela	Grav's Landing (L&D 7)	L&D 2
Monongahela	Point Marion (L&D 8)	L&D 3
Monongahela		L&D 4
Kanawha	Winfield L&D	Marmet L&D
Tennessee		Kentucky L&D

TRAFFIC PROJECTIONS SHOW NEED FOR EARLY PROGRESS

The traffic projections of the U.S. Army Engineers show clearly that a need exists for early progress in preserving the effectiveness of the 6 river segments on which the 16 projects requested by NCA are located. Its projections to the year 2000 indicate that total traffic is expected to increase between 0.7% and 2.1% yearly, and the selected 6 river segments are expected to outpace the average growth for the entire system. Total traffic growth rates per year on the mainstem of the Ohio River is projected to increase between 1.3% and 2.8%, on the Warrior-Tombigbee River System between 2.5% and 3.8%, on the Upper Mississippi River between 1.7% and 3.1%, on the Monongahela River between 2.7% and 4.7%, on the Kanawha River between 1.7% and 3.8%, and on the Tennessee River between 1.2% and 2.6%.

All 16 of the projects included in NCA's request have a common need, that of added capacity to accommodate barge traffic efficiently. That is true with respect both to the 7 projects already authorized for construction, and to the remaining 9 projects for which NCA is seeking construction authorizations in the House and Senate committees holding jurisdiction over such matters and by legislation before the Congress, including support of the Administration for enactment of the legislation. With that in mind, we not only seek the support of the Congress for appropriations required to perform incremental year-to-year completion of construction now authorized at 7 locations, but also for appropriations needed to do the preliminary studies at the other 9 locations so that their costs are ascertained in preparation for authorizing legislation. Both of those actions, we believe, are consistent with a goal of managing a program effectively, giving due attention to the importance of having priorities set for the years immediately ahead as well as for the longer term.

In conclusion, Mr. Chairman and members of the subcommittee, NCA wishes to express warm appreciation for your leadership in the 1980's in getting sound progress accomplished through appropriations for well justified construction of improvements on our inland waterways. NCA urges you to maintain the momentum you have created by now reporting favorably on legislation which will provide construction appropriations and further appropriations needed to complete work prior to construction at the 16 locations presented in our request. We sincerely appreciate too, having this opportunity to present our testimony, and stand ready to respond to questions now and later should you wish to have our written responses. Thank you for allowing NCA to appear here today.

OCEAN CITY HURRICANE PROTECTION PROJECT

STATEMENT OF HON. PAUL SARBANES, U.S. SENATOR FROM MARYLAND

Senator HATFIELD. Thank you for your comments. They are very well taken. We appreciate your time.

I would like to invite Senator Sarbanes, Paul Sarbanes of Maryland to come forward. The Senator has a heavy, heavy schedule, and if the witnesses will just be patient a moment I will hear the rest of the witnesses but I would like to invite Senator Sarbanes to present his testimony at this time.

Senator SARBANES. Mr. Chairman, I am most appreciative to you for this opportunity to speak for just a few minutes, and I am especially grateful for your taking me out of order. I will submit the full statement for the record and try to summarize.

I really am here to testify on a matter of the utmost importance to my State and, I think, in fact, a broader sense to the Nation; that is the protection of the Atlantic coast of Maryland from hurricanes and devastating storms.

Unfortunately, the budget submitted by the administration and the Corps of Engineers' budget did not reqeust funding for construction of the Atlantic coast of Maryland hurricane protection project, and I would like to just quickly review some of the developments in this regard.

We have had over the years close to devastation with respect to major storms that have caused us major economic loss. Three years ago the Corps made a commitment to assist in the design and construction of a unique two-phase project to provide storm protection and erosion control for Ocean City.

I want to emphasize this was the result of a detailed study by the Corps completed in September 1981 with, in fact, the assistance of the chairman of this committee.

The Office of Management and Budget initially opposed authorization of the project, raising concerns about Federal funding for the recreational aspects of it. That led to further review by State and Federal authorities. An agreement was reached to proceed with the hurricane protection project in two phases.

Phase 1 called for the State and local governments to fund and construct that part of the original project providing recreational beach rebuilding, and it exceeded the minimum requirement in order to provide a 10-year storm protection.

Phase 2 called for the Corps of Engineers with cost-sharing assistance from State and local governments to construct the bulkhead and sand dune along the shoreline to provide a 100-year storm protection.

So, in effect, what we did, we took the objections raised by OMB saying some of this was for recreational purposes, and the State and local people said we will do the recreational part of it and, in addition, to go beyond that and give a 10-year protection. Then the Corps would come in and the Federal Government, sharing with State and local government, would then do the 100-year projection; in other words, projecting it further out to obtain the hurricane protection.

I want to include in the record some material from the Corps of Engineers detailing this arrangement. The Chief of Engineers in

October 1986 recommended the revised project be approved for Federal construction. This project was authorized in the 1986 Water Resources Development Act at an estimated total cost of $58 million.

We have had a unique partnership among Federal, State, county, and city governments to accomplish this work and to share the cost of the project.

Mr. Chairman, I think it is very important to point out that in keeping with this agreement, in keeping with the authorization which the Congress enacted, the State of Maryland and the local county and city officials committed extensive resources, completed environmental and engineering studies, secured the necessary right of ways, and completed phase 1 this past September. It resulted in a beach 220 feet wide over 8 miles, and it then left as the foundation for phase 2, which is what we now want to move to.

This part of it worked. We had major storms this winter which washed out some of this beach but did not, in fact, reach the buildings and cause a kind of economic havoc that we are trying to address.

In an earlier estimate, the Corps had said that a 100-year storm would cause damage of $160 million, and we think the figure is even higher now.

The Corps is ready to proceed with this project. To avoid delays between phase 1, which the State and local people did, and phase 2, which the Corps was to do, in other words to extend out the beach protection, the Corps undertook an accelerated engineering and design schedule covering 3 fiscal years.

State and local authorities have budgeted the non-Federal share, 35 percent of the second phase of the project. The project has positive momentum, strong public support and a high degree of cooperation among Federal, State, and local governments.

We seek funding in fiscal year 1990 in order to enable the Federal Government to move on its partnership commitment to this project. I feel very strongly that the State, county, and city have successfully and in good faith completed their part of the agreement on the reliance that construction of the Federal hurricane project would commence as soon as the State project was finished.

It is absolutely critical that the Federal Government now meet its commitment and begin construction of phase 2. A total of $18 million is needed in this year's energy water development appropriations bill to allow the Corps to initiate this important undertaking. This would enable the project to move forward, continue the momentum which has now been developed, and justify the reliance of State, county, and local government on Federal participation.

We face a situation where if we can complete the project, phase 1 and phase 2, we then get a 100-year protection against a major hurricane. We have the project in place and we are then in a position to gain the maximum assurance against the kind of devastation and destruction which a major storm might otherwise levy on this area.

I cannot emphasize enough, and I will close with this point, that this was very carefully worked out. As I indicated earlier, originally the OMB had an objection. We went back and addressed that ob-

jection. In effect, an understanding was reached. An authorization was approved by the Congress. State, county, and local government have proceeded to invest significant resources on the basis of that understanding, and we urgently plead with the committee now to provide us with the initial Federal appropriation which is essential in order to carry the project forward in the coming fiscal year.

I thank the chairman very much.

I see my very able and distinguished colleague, Senator Mikulski, is here. I am sure you will want to hear from her.

Senator DOMENICI [presiding]. Thank you very much, Senator Sarbanes.

[The statement follows:]

STATEMENT OF SENATOR PAUL SARBANES

Thank you, Mr. Chairman, for this opportunity to testify on a matter of utmost importance to my State and Ocean City -- the protection of the Atlantic Coast of Maryland from hurricanes and devastating storms.

The Administration's fiscal 1990 Corps of Engineers budget submission did not request funding for construction of the "Atlantic Coast of Maryland Hurricane Protection Project." I would like to review briefly the history of this urgently needed project and to ask your assistance in providing the necessary funding.

The Atlantic Coast of Maryland, including the beach area of Ocean City -- Maryland's premier resort community -- has suffered tremendous erosion due to northeast storms. The entire stretch of shoreline has been subject to severe damage from high tides and wave action during major storms such as occurred in the northeast storm of 1962. More recently Hurricane Gloria and other storms have devastated the coastline sweeping away over 500,000 cubic feet of protective beachfront in a very short period of time. As a result, Ocean City has been left with little natural protection. There is a significant potential for a major storm to cause a catastrophe. According to a Corps of Engineers estimate, if a 100-year frequency storm were to occur in Ocean City, the damage to public and private property, roads, utilities, and public works could exceed $160 million.

Three years ago, the Army Corps of Engineers made a commitment to assist in the design and construction of a unique two-phase project to provide storm protection and erosion control for Ocean City. It should be emphasized that this project was the result of a detailed study by the Corps completed in September 1981, with the Chairman's and Committee's assistance. The Office of Mangement and Budget initially opposed authorization of the project raising concerns about providing federal funding for the "recreational" aspects of the project. However, after further review by State and Federal authorities, an agreement was reached to proceed with a hurricane protection project in two phases. Phase I called for the State and local governments to fund and construct that part of the original project providing the "recreational" beach rebuilding component and to exceed the minimum requirement by including 10-year storm protection. Phase II called for the Corps of Engineers, with cost-sharing assistance from State and local governments, to construct a bulkhead and sand dune along the Ocean City shoreline to provide 100-year storm protection.

I have included in my statement some information about this plan and ask that it be made part of the record. The Corps concluded that this plan was the most practical method, economically justifiable and environmentally acceptable. The Chief of Engineers' Supplemental Report of October 2, 1986 recommended that the revised project be approved for Federal construction. The project was authorized in the 1986 Water Resources Development Act at an estimated total cost of $58.2 million. A unique partnership had been formed among Federal, State, County and City governments to accomplish the work and to share the cost of the project.

In keeping with the agreement and authorization, the State of Maryland, Worcester County and the Town of Ocean City committed extensive resources, completed environmental and engineering studies, secured the necessary rights-of-way, and successfully completed Phase I on September 21, 1988, ahead of schedule and within budget. It resulted in a beach 220 feet wide over eight miles, providing protection against a 10-year storm. More than 2.5 million cubic yards of sand were pumped onto the beach from off-shore sites at a cost of $12 million, establishing the foundation

for Phase II and accomplishing an important Maryland commitment to the project.

The project has worked! In two storms this winter, the replenished beach did the job it was designed to do and kept the ocean from damaging the $2.5 billion resort community. But that major investment by Maryland is vulnerable until the authorized 100-year storm protection is completed by the Corps of Engineers.

The Corps of Engineers is ready to proceed with this project. In order to prevent delays between the implementation of phase I and phase II, the Corps undertook an accelerated engineering and design schedule covering three fiscal years. A total of $2.6 million was approved by Congress to complete the design, prepare finished plans and specifications in order to start construction in fiscal 1990. State and local authorities have budgetted $21 million representing the 35% non-Federal share required by law for the second phase of the project. The project has positive momentum, strong public support and has proceeded so successfully because of the unusually high degree of cooperation and effort on the part of Federal, State and local governments.

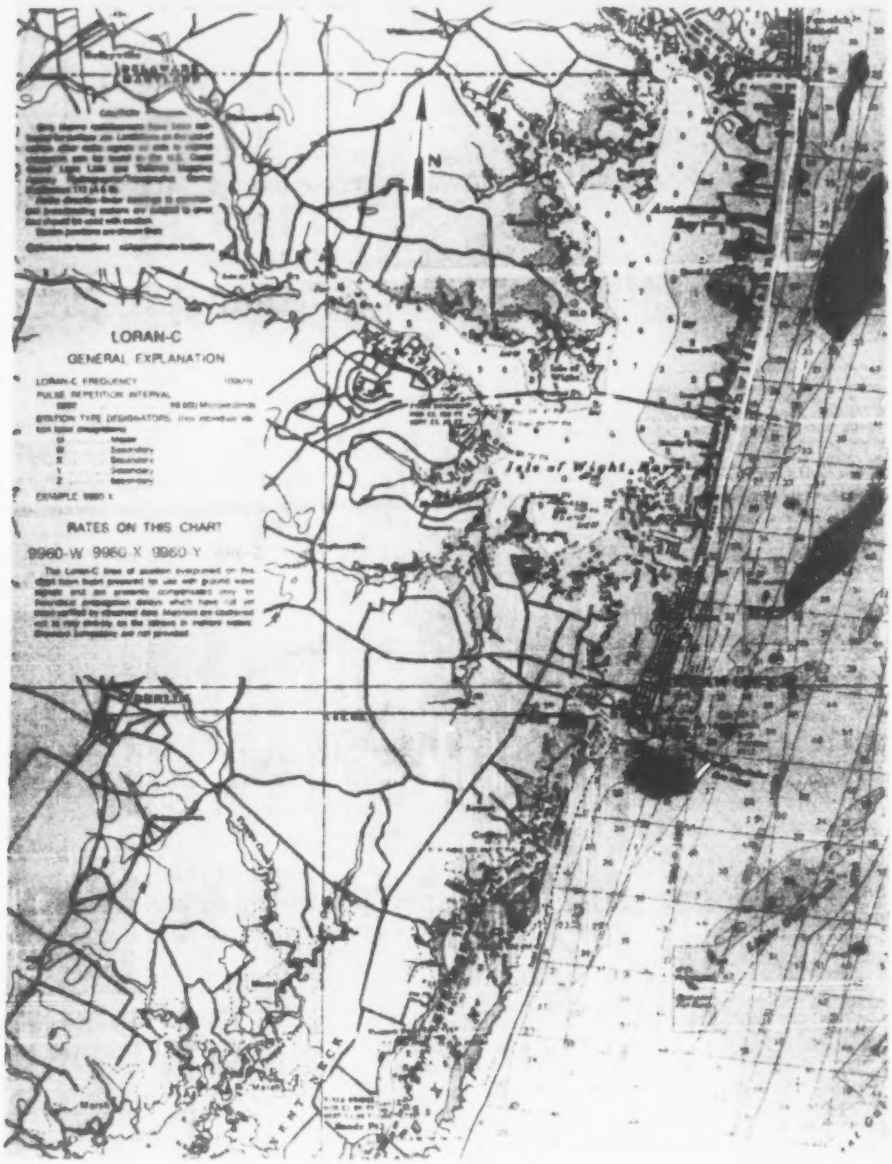
Phase II must be funded in FY 90 to fulfill the Federal part of the partnership commitment to this unique project. The State, County, and City have successfully, and in good faith, completed their part of the agreement with the reasonable expectation that construction of the federal hurricane protection project would commence as soon as the State project was finished. It is absolutely critical that the federal government now meet its commitment and begin construction of phase II in Fiscal 1990.

$17.5 million is urgently needed in this year's Energy and Water Development Appropriations bill to allow the Corps to initiate this important undertaking and provide for public safety and protection of public and private property. Without this project, we could be faced with the great responsibility and financial burden of rebuilding the City and its infrastructure in the event of a major storm -- to say nothing of the danger to human life and health. Failure to initiate phase II promptly would add to the quanitities of beachfill sand required, increase project costs and strain the resources of the offshore sand borrow areas. It could also undo the progress and investment that has been made to date in the State/local portion of the project.

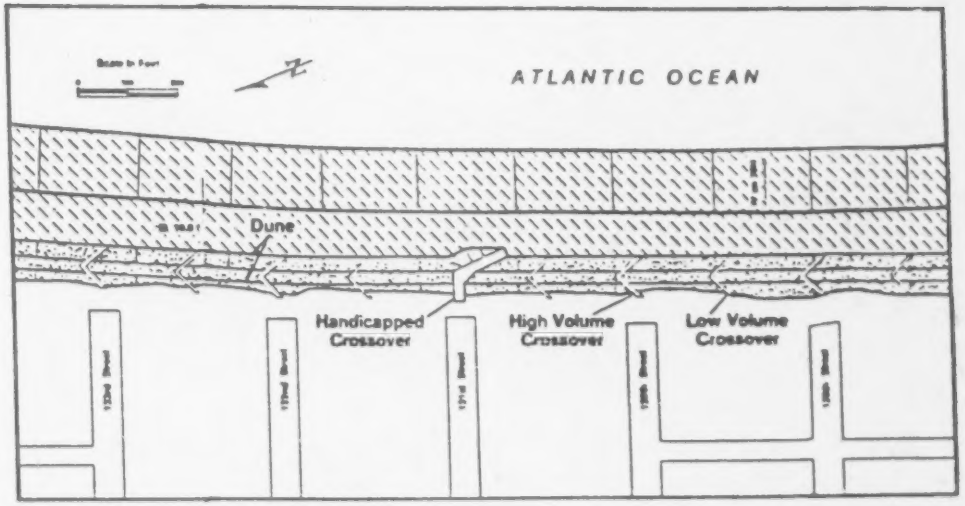
I greatly appreciate your assistance in previous years which enabled this project to move forward and ask your continued support in ensuring its timely construction.

Thank you Mr. Chairman.

Atlantic Coast of MD (CP&E)

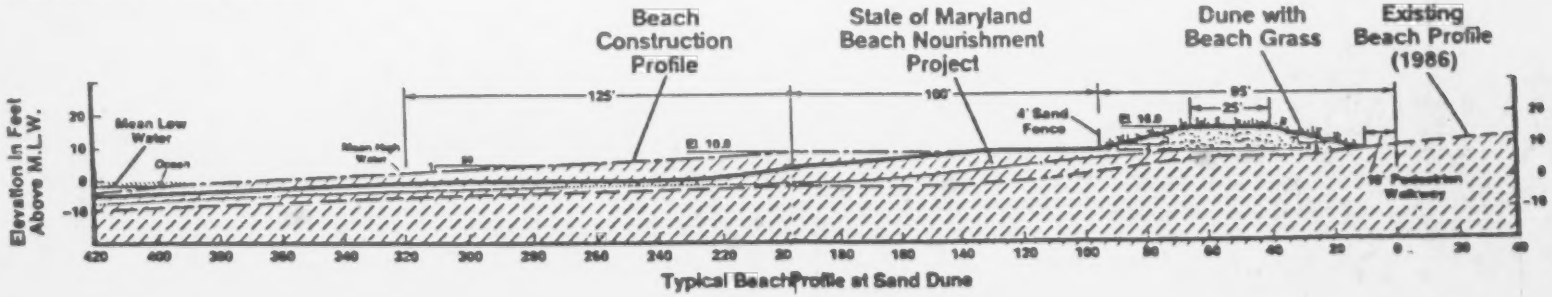


PLAN



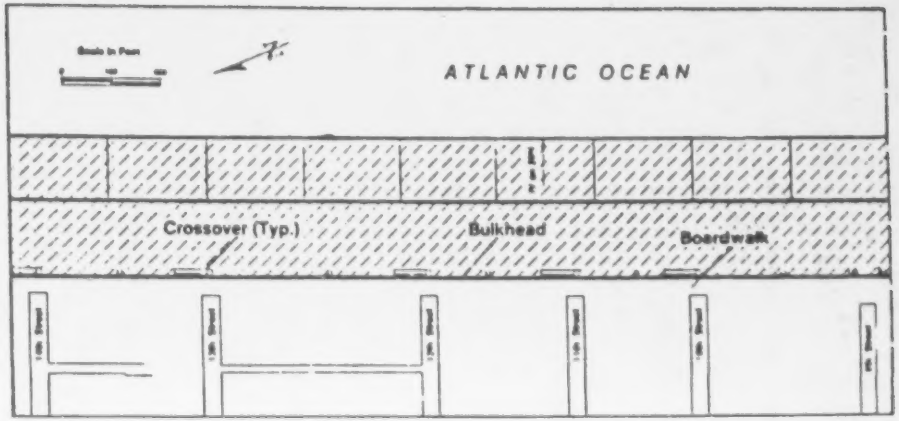
Typical beach profile along sand dune.

BEACH PROFILE



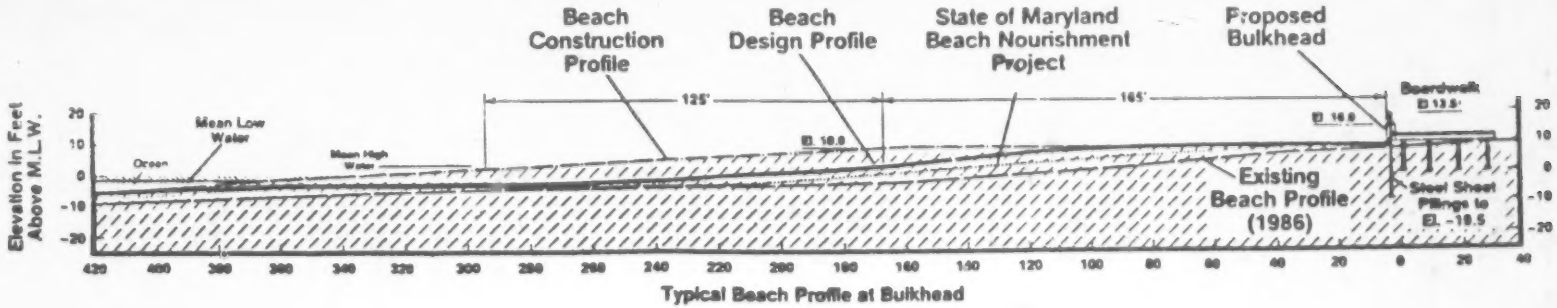
Typical Beach Profile at Sand Dune

PLAN



Typical beach profile along bulkhead.

BEACH PROFILE



Typical Beach Profile at Bulkhead

Hurricane Protection Plan

1. Bulkhead From 5th Street to 27th Street - 1.5 Miles
2. Dune From 27th Street to Delaware Line - 6.7 Miles
3. Transition Into Delaware - 0.3 Miles
4. Beachfill Oceanward of Bulkhead (165 ft.) and Dune (100 ft.)
5. Sand - 3.8 Million Cubic Yards
6. Steel - 3,690 Tons

   Total Length 8.5 Miles

Project Features

1. 100-Year Storm Protection
2. Erosion Over Past Several Years (Gloria - Sep 85 and Juan - Nov 85)
3. Project Oriented To Accommodate State Building Limit Line and Local Ordinances
4. 10-Foot Walkways Behind Dune for Public and Emergency Access
5. State-of-the-Art Design To Ensure a Stable Cross Section

Funding Distribution

A. *Hurricane Protection Plan:	
(Provides 100 Yr. Storm Protection)	
1. Federal	$38,800,000
2. Maryland	11,000,000
3. Worcester County	5,500,000
4. Town of Ocean City	5,500,000
Total Project Estimate	$60,800,000
B. **Beach Replenishment Project:	
(Provides 10 Yr. Storm Protection)	
1. Federal	$ -0-
2. Maryland	7,325,000
3. Worcester County	3,050,000
4. Town of Ocean City	3,050,000
Total Project Cost	$13,425,000

*Benefit Cost Ratio = 1.6 for Reducing Wave, Erosion and Inland Flooding Damages and Business Losses

** Begun May 12, 1988 - Completed Sept. 21, 1988

STATEMENT OF HON. BARBARA MIKULSKI, U.S. SENATOR FROM MARYLAND

Senator DOMENICI. Senator Mikulski.

Senator MIKULSKI. Thank you very much, Mr. Acting Chairman.

I want to expand upon what my colleague, Senator Sarbanes, has said. He has given you the background and the factual basis as well as the compelling need. I just want to add one point.

We are supposed to get hurricane protection for our money, and the way they want to do it is right now when storms come the wave action is so intense that it ends up bombarding physical structures, and also because Ocean City is a narrow peninsula going out into the highway, it makes evacuation of people very difficult.

Governor Schaefer put in phase 1 as a first barrier, and it is also the recreational portion of the overall hurricane protection project.

Then a big northeaster hit Ocean City, and we heard the sand rashed out into the ocean. My immediate reaction is, Oh, God, do not tell me another Government idea that was a dumb one and after all those bucks it will mean nothing for Ocean City.

I went down to see for myself. I went to the spot where I had been 1½ years ago before the dune line, and I really saw something phenomenal. Yes, part of the dune did wash out but it accomplished the objective of storm protection, or the beginning; not the whole thing but the beginning. As the dune went out, it increased beach size so that the waves began to break farther out, slowing down the momentum.

I saw a building where 18 months ago waves were pounding at the structure.

Now what did I see? I saw phase 1 of a protection. Was it za complete protection from a northeaster? No. It certainly was not a complete protection from a hurricane, but when we hear some of the sand washed out, it was supposed to wash out. It did what it was supposed to do, and it proved that the Corps of Engineers knows what the heck it is doing.

I happen to think that this is a public investment that makes wise use of our money. It protects over 2 billion dollars' worth of private investment and, most of all, it protects the people of Maryland. When a hurricane comes, whether its name is Agnes or Gloria or Bill or Bennett or Pete, the people of Maryland will be safe.

Senator DOMENICI. Thank you very much, Senator Mikulski. We are delighted to have you here. As usual, you have given us a very specialized version of our responsibility. Thank you very much.

I understand we are now going to take three witnesses together. We are going to hear first from Mr. Tom McKenzie, president of the Coosa-Alabama River Improvement Association. He is accompanied by Ralph Clemens, executive vice president of the association, and Don Hines of the Alabama Department of Economic Community Affairs.

Mr. McKenzie, would you please proceed with your testimony.

COOSA AND ALABAMA RIVER BASIN PROJECTS

STATEMENTS OF:

J.T. McKENZIE, PRESIDENT, COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION, INC., GASDEN, AL

COL. RALPH O. CLEMENS, JR., EXECUTIVE VICE PRESIDENT, COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION, INC., MONTGOMERY, AL

ACCOMPANIED BY DR. DON HINES, CHIEF, PLANNING AND ECONOMIC DEVELOPMENT DIVISION, ALABAMA DEPARTMENT OF ECONOMIC COMMUNITY AFFAIRS

Mr. MCKENZIE. Thank you.

Mr. Chairman, it is a pleasure to be here. We appreciate the opportunity. As president of the Coosa-Alabama River Improvement Association, I speak for a large and diverse group of citizens throughout the State of Alabama and northwest Georgia.

They represent a broad range of callings and professions, each with a well-defined interest in waterway development. Some use the waterway now either as shippers or tow operators. Others are businessmen, bankers, and a variety of other private individuals. Then there is a larger group of elected officials and their constituents, typical of the 23 municipalities and 19 counties along the water who are members of this association.

These people were elected, as you were, to lead, to govern now and also to plan a better future for the citizens that they represent. In my written testimony are specific funding requests for fiscal year 1990. These projects include work on the Mobile Harbor, the Alabama River, Claiborne Lock and Dam, Millers Ferry Lock and Dam, Robert F. Henry Lock and Dam, Allatoona Lake, and Carters Lake, both in Georgia.

Thanks to your help and the help of this committee, the long-delayed project concerning improvements in the Alabama River south of Claiborne has begun and is proceeding on schedule. These improvements will enhance the marketability and increase the tonnage on this river. The entire program should be completed early next year.

The association is anxiously awaiting the outcome of the economic review of the Coosa River navigation project, the upper part of this river system.

I remember I was often asked how many industries searching for viable location sites have decided in favor of other areas simply due to the lack of inexpensive river transportation. If our answers truly lie in making American industry competitive on a worldwide basis, a specific aide would be to lower transportation costs.

In doing this, Government would recognize that waterways should be improved prior to the business interest committing to multimillion dollar investments on undeveloped rivers.

We appreciate the opportunity to speak to the subcommittee, and hundreds of others that we represent would gladly do so if availed that opportunity.

Please accept our appreciation, and your attentiveness and concerns in the past continue to give hope to those who have the vision to plan for the future.

Thank you.

[The statement follows:]

STATEMENT OF J.T. McKENZIE

1 AM DELIGHTED TO HAVE THIS OPPORTUNITY TO SHARE WITH YOU OUR APPRAISAL OF FUNDS WHICH SHOULD BE INCLUDED IN THE FISCAL YEAR 1990 ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR THE PROJECTS LISTED BELOW. AS THE PRESIDENT OF THE ASSOCIATION, I SPEAK FOR A LARGE AND DIVERSE GROUP OF PRIVATE CITIZENS AND POLITICAL AND INDUSTRIAL ORGANIZATIONS WHO SEE THE CONTINUED DEVELOPMENT OF THE COOSA-ALABAMA WATERWAY AS AN OPPORTUNITY FOR ECONOMIC GROWTH IN OUR REGION AS WELL AS THE NATION.

OUR MEMBERSHIP REFLECTS A BROAD RANGE OF CALLINGS AND PROFESSIONS; EACH WITH A WELL-DEFINED INTEREST IN WATERWAY DEVELOPMENT. SOME USE THE WATERWAY NOW, EITHER AS SHIPPERS OR TOW OPERATORS. OTHERS ARE BUSINESSMEN, BANKERS AND A VARIETY OF OTHER PRIVATE INDIVIDUALS WHO HAVE A STAKE IN FUTURE ECONOMIC DEVELOPMENT FOR THEIR FIRMS AND THEIR SUCCESSORS TO ENJOY. THEN THERE IS A LARGER GROUP OF ELECTED OFFICIALS AND THEIR CONSTITUENTS TYPICAL OF THE TWENTY-THREE MUNICIPALITIES AND NINETEEN COUNTIES ALONG THE WATER WHO ARE MEMBERS OF THIS ASSOCIATION. THESE PEOPLE WERE ELECTED - AS YOU WERE - TO LEAD; TO GOVERN NOW AND ALSO PLAN A BETTER FUTURE FOR THE CITIZENS THEY REPRESENT.

MR. CHAIRMAN, WE THANK YOU FOR THE SUPPORT YOUR COMMITTEE HAS GIVEN US IN THE PAST.

TABULATED BELOW ARE OUR SPECIFIC FUNDING REQUESTS FOR FISCAL YEAR 1990. THE PROJECTS WE SUPPORT ARE PART OF A WATERWAY SYSTEM THAT ORIGINATES IN NORTHWEST GEORGIA AND FLOWS DIAGONALLY ACROSS THE STATE OF ALABAMA TO MOBILE HARBOR.

OPERATIONS AND MAINTENANCE (O&M)	FUNDING REQUEST
. ALABAMA-COOSA RIVER, AL* (ALABAMA RIVER INCLUDING CLAIBORNE LOCK & DAM)	$ 4,708,000
. MILLERS FERRY LOCK & DAM, AL	2,679,000
. ROBERT F. HENRY LOCK & DAM, AL	2,421,000
. MOBILE HARBOR AND PORT(INCL. CONSTR.)	8,891,000
. ALLATOONA LAKE, GA	4,712,000
. CARTERS LAKE, GA	2,568,000
	$ 25,979,000

*INCLUDES 72 MILES FROM THE MOUTH OF THE ALABAMA RIVER THROUGH CLAIBORNE LOCK AND DAM UP TO MILLERS FERRY. THE COOSA RIVER IS NOT INCLUDED.

THANKS TO YOUR HELP, MR. CHAIRMAN, THE LONG-DELAYED PROJECT CONCERNING IMPROVEMENTS TO THE ALABAMA RIVER SOUTH OF CLAIBORNE (THE ASSOCIATION CALLS IT THE "LOWER ALABAMA REHABILITATION PROJECT") HAS BEGUN AND IS PROCEEDING ON SCHEDULE. THE DREDGE REFERENCE PROFILE WORK IS COMPLETE AND WILL INCREASE THE DEPENDABILITY OF THE RIVER FOR NAVIGATION. TRAINING DIKE CONSTRUCTION AND RECONSTRUCTION WILL BEGIN AFTER HIGH WATER PERIOD. PHASE I OF THIS EFFORT HAS BEEN AWARDED TO THE FORD CONSTRUCTION COMPANY, KNOWN FOR THEIR WORK ON THE TENN-TOM. THE ROCK REMOVAL CONTRACT HAS BEEN AWARDED TO FOLK CONSTRUCTION COMPANY AND SHOULD BEGIN IN THE MAY TIME FRAME. DURING NORMAL HYDROLOGIC CONDITIONS, THE NINE-FOOT CHANNEL AVAILABILITY WILL BE INCREASED TO 88%, THE EIGHT-FOOT CHANNEL IMPROVES TO 99% OF THE TIME AND THE SEVEN-FOOT CHANNEL TO 100%. (AVAILABILITY PERCENTAGES BASED ON A 4-DAY TRIP DURATION)

THIS IMPROVEMENT TO THE ALABAMA RIVER HAS BEEN SORELY NEEDED TO ENHANCE THE MARKETABILITY AND INCREASE THE TONNAGE OF THE RIVER. THE ENTIRE PROGRAM SHOULD BE COMPLETED WITHIN THE EARLY PART OF 1990.

THE ASSOCIATION IS ANXIOUSLY AWAITING THE OUTCOME OF THE ECONOMIC REVIEW OF THE COOSA RIVER NAVIGATION PROJECT. ALTHOUGH THE PROHIBITION ON THE USE OF REGIONAL BENEFITS AND SLUGGISH GENERAL ECONOMIC DEVELOPMENT OF THE COOSA RIVER BASIN WOULD SUGGEST A LESS THAN FAVORABLE BENEFIT/COST RATIO (AS STRICTLY DEFINED), ECONOMICS ALONG THE BROAD FRONT MAY SUGGEST A SUBSTANTIAL INCREASE. ACCORDINGLY, IT WOULD NOT BE UNREASONABLE TO EXPECT CONTINUED GROWTH, AS HAS BEEN REFLECTED IN THE LATEST ALABAMA BUSINESS MAGAZINE. ONE OBVIOUS WAY TO STIMULATE CONTINUED GROWTH IS TO PRESS ON WITH THE COOSA RIVER NAVIGATION PROJECT. ADMITTEDLY, THE BARE NUMBERS MAY NOT BE THERE, BUT QUITE LIKELY THEY HAVE NOT BEEN THERE FOR MANY OTHER PROJECTS WHICH THE FEDERAL GOVERNMENT HAS CHOSEN TO UNDERWRITE. OUR MEMBERS OFTEN ASK HOW MANY INDUSTRIES, SEARCHING FOR VIABLE LOCATION SITES HAVE DECIDED IN FAVOR OF OTHER AREAS SIMPLY DUE TO THE LACK OF INEXPENSIVE RIVER TRANSPORTATION. IF OUR INTERESTS TRULY LIE IN MAKING AMERICAN INDUSTRY COMPETITIVE ON A WORLDWIDE BASIS, A SPECIFIC AID WOULD BE TO LOWER TRANSPORTATION COSTS. IN DOING THIS, GOVERNMENT WOULD RECOGNIZE THAT WATERWAYS SHOULD BE IMPROVED PRIOR TO BUSINESS INTERESTS COMMITTING TO MULTIMILLION DOLLAR INVESTMENTS ON UNDEVELOPED RIVERS. TO BELIEVE THAT A STRICT MATHEMATICAL FORMULA CAN BE THE ONLY DECISION-MAKING CRITERION USED IN DEVELOPING WATER TRANSPORTATION NETWORKS IGNORES BUSINESS COMMON-SENSE AND EXPERIENCE.

ACCORDINGLY, THE ASSOCIATION MEMBERSHIP, AS WELL AS OTHER SMALL TRIBUTARY COLLEAGUES, HAVE EXPRESSED CONCERNS THAT THE ACT OF 1986 IS NUTURING A "RICH GET RICHER" SYNDROME WHICH MAY ACT TO THE DISADVANTAGE OF RIVERS SUCH AS THE COOSA. DEVELOPING AND NON-DEVELOPED WATERWAYS ARE FINDING THEMSELVES IN A NO-WIN SITUATION BECAUSE OF THE SUBSTANTIAL COST-SHARING REQUIREMENTS FOUND IN THE LAW. IN STATES WITH A LOW INDUSTRIAL TAX BASE, COST-SHARING BECOMES A PROHIBITIVE REQUIREMENT WHICH VIRTUALLY GUARANTEES THE DEATH OF EVEN WORTHWHILE WATER PROJECTS. TO ASK THAT LARGE CORPORATIONS SETTLE ON RIVERS WHICH "MAY" BE DEVELOPED IN THE FUTURE IS NAIVE, AND IS A QUESTION THAT RESPONSIBLE INDUSTRIAL DEVELOPERS WOULD PROBABLY NEVER POSE.

THE REAL DICHOTOMY UNDERLYING THE ENTIRE DISCUSSION IS THAT UNDER PRESENT RULES, STATES AND LOCALITIES ARE BEING ASKED TO INSURE THE PRESENCE OF LARGE INDUSTRIES ALONG THEIR RESPECTIVE WATERWAYS SO AS TO ASSURE THE CORPS OF ENGINEERS OF A SUBSTANTIAL BENEFIT-COST RATIO BEFORE THE PROJECT CAN EVEN GET OFF THE GROUND.

UNLESS THE WATER RESOURCE DEVELOPMENT ACT OF 1986 IS MODIFIED, AREAS OF THE COUNTRY WHICH ARE MUDDLING ALONG IN ECONOMIC MEDIOCRITY WILL SIMPLY REMAIN THAT WAY, WHILE THOSE PARTS OF THE NATION (AND THEIR WATERWAYS) WHICH ARE THRIVING WILL GROW MORE PROSPEROUS.

THE CONCERNS OF OUR ASSOCIATION CENTER AROUND THE DISPROPORTIONATE ALLOCATION OF RESOURCES UNDER THE LAW. WHILE IT'S NOT NECESSARY TO COMPLETELY OVERHAUL THE ACT OF '86, SOME APPROPRIATE FINE TUNING IS IN ORDER. ACCORDINGLY, WE BELIEVE THAT THE FOLLOWING OBSERVATIONS, IN THE FORM OF PROPOSED AMENDMENTS, ARE WORTHY OF EXTENDED DEBATE AND ACTION BY WATERWAY INTERESTS AS WELL AS OUR REPRESENTATIVES IN THE CONGRESS. AS PART OF OUR OVERALL RECOMMENDATIONS, THE ASSOCIATION SUGGESTS THAT CONGRESS AMEND THE ACT OF 1986:

A. TO EXEMPT NON-DEVELOPED AND DEVELOPING WATERWAYS FROM COST-SHARING REQUIREMENTS UNTIL SUCH TIME AS TONNAGE AND ECONOMIC DEVELOPMENT PASS A PREDETERMINED LEVEL.

B. TO INCLUDE SECTION 140 OF THE WATER RESOURCE DEVELOPMENT ACT OF 1976 WHICH GAVE THE SECRETARY OF THE ARMY AUTHORIZATION TO USE REGIONAL BENEFITS IN COMPUTING BENEFIT-COST RATIOS, AND

C. TO REQUIRE USER'S BOARD REPRESENTATION TO INCLUDE SMALL TRIBUTARY USERS, SHIPPERS AND ASSOCIATIONS.

IF SOME MEASURE OF ACTIVE DISCUSSION RESULTS FROM THESE RECOMMENDATIONS, IT MAY WELL HIGHLIGHT NOT ONLY THE DILEMMA OF SMALL RIVER ENTITIES BUT ALSO THE PERCEIVED INEQUITY OF THE LAW ITSELF.

THE MEN AND WOMEN WHO JOIN ME IN OFFERING TESTIMONY TODAY ARE LEADERS IN THEIR OWN RIGHT -- A SOLID AMALGAM OF PROFESSIONALS FROM INDUSTRY AND GOVERNMENT AS WELL AS INDIVIDUALS WHO HAVE HAD A LIFE-LONG DESIRE TO IMPROVE AND MAINTAIN OUR GREAT RIVER. THEY KNOW, INTUITIVELY, THAT THE NAVIGATION CHANNEL TO ROME IS AN ESSENTIAL INGREDIENT TO MAKING OUR INDUSTRY MORE COMPETITIVE. THE TENN-TOM WILL PAY ITS WAY, EVEN WITH ITS MODEST START, AND WITH THE COMPLETION OF THE COOSA RIVER NAVIGATION PROJECT, THE STATE WILL BE TOTALLY SERVICED BY ECONOMICAL RIVER TRANSPORTATION. ADD TO THAT THE STRONG STATEMENTS OF SUPPORT FOUND IN OUR PACKAGE AND YOU WILL FIND A BROAD CROSS SECTION OF ALABAMIANS SAYING THAT THEY HOPE THAT YOU WILL LEND YOUR MIGHT AND CREDIBILITY TO ASSURE THAT THE FEDERAL GOVERNMENT WILL:

1. IMPROVE AND MAINTAIN THE ALABAMA RIVER, AND, IN PARTICULAR, CONTINUE THE REHABILITATION PROJECT MENTIONED EARLIER.

2. CONTINUE MAINTAINING AND DEEPENING THE MOBILE HARBOR.

3. OPEN THE COOSA RIVER FOR NAVIGATION TO GADSDEN, THEN TO ROME, GEORGIA.

4. AMEND THE WATER RESOURCE DEVELOPMENT ACT OF 1986 AS EXPLAINED EARLIER IN THIS STATEMENT.

WE APPRECIATE THE OPPORTUNITY TO SPEAK BEFORE THIS SUBCOMMITTEE. WE KNOW THAT YOU WILL RECEIVE OUR REQUESTS WITH BALANCE AND CONSIDERATION. OUR MEMBERS WHO HAVE SPENT TIME AND TREASURE TO APPEAR BEFORE YOU TODAY REPRESENT HUNDREDS OF OTHERS WHO, GIVEN THE OPPORTUNITY, WOULD DO LIKEWISE IN SPEAKING OUT IN FAVOR OF THESE VITAL PROJECTS. IN CLOSING, PLEASE ACCEPT OUR SINCERE APPRECIATION FOR YOUR SUPERB SUPPORT, NOT ONLY ON BEHALF OF ALABAMA BUT THE NATION AS A WHOLE. YOUR ATTENTIVENESS AND CONCERN IN THE PAST CONTINUES TO GIVE HOPE TO THOSE WHO HAVE THE VISION TO PLAN FOR THE FUTURE. THANK YOU AND GOOD LUCK.

FLOYD COUNTY BOARD OF COMMISSIONERS RESOLUTION

THAT WHEREAS, the Congress of the United States is again considering appropriations for the Fiscal Year 1990 for further work to make navigable the Alabama-Coosa River System from Mobile, Alabama to Rome, Georgia; and,

WHEREAS, the Coosa River Navigation Project is of particular concern to Floyd County, Georgia and this Board wishes to express its wholehearted support for the objectives of the Coosa-Alabama River Improvement Association; and,

WHEREAS, The three Association objectives of (1) maintaining the Alabama River as a viable waterway; (2) deepening the Mobile Harbor to

accommodate the largest ocean-going vessels, and; (3) opening the Coosa River for navigation are also a priority for Floyd County; and,

WHEREAS, we urge your favorable consideration of the U. S. Corps of Engineers Fiscal '90 appropriation for this project; and,

NOW, THEREFORE, BE IT RESOLVED, that this Board of Commissioners wish to go on record in support of the Coosa River Navigation Project.

Done in open meeting this 28th day of March, 1989.

FLOYD COUNTY BOARD OF COMMISSIONERS

JOHN B. DICKEY, CHAIRMAN

ATTEST:

SUE BROOME, CLERK

RESOLUTION

ALABAMA ELECTRIC COOPERATIVE, INC.

BOARD OF TRUSTEES

WHEREAS, Alabama Electric Cooperative, Inc. (AEC), generates and transmits electrical energy to it's member-owners which are comprised of sixteen (16) rural electric cooperatives, four (4) municipalities and two (2) industries and in-turn, these member-owners furnish power to homes, farms, commercial and industrial establishments of more than 500,000 consumers; and

WHEREAS, the area served by some of these electric cooperative systems encompasses the same area as the Coosa-Alabama River Systems, an area which is predominantly agricultural/forest related, sparsely populated and where the related industry is lagging behind. As a result, the unemployment rates in the areas of the Coosa-Alabama River System are still high. The development of the Coosa River Project and the continue improvement of the Alabama River waterway will aid in bringing industry and jobs to this depressed area:

THEREFORE, BE IT RESOLVED THAT, to accomplish the development of the Coosa River Project and the continue improvement of the Alabama River waterway, the Alabama Electric Cooperative Board of Trustees request your subcommittee consider and approve the following: 1) Resume design and engineering work in the Coosa Project. 2) Continue operation and maintenance of upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia. 3) Modify the Water Resource Development Act of 1986 to enable non-developed and developing river systems to be exempt from most cost-sharing requirement until a reasonable level of

tonnage is achieved. 4) Restore Section 140 authority (as contained in the Act of 1976) to enable regional benefits to be used in computing benefit/cost ratios. 5) Maintain the schedule for the Mobile Harbor Deepening Project to 55 foot depth. 6) Continue U.S. Army Corps of Engineers maintenance and operation of the Alabama River Waterway from Montgomery to Mobile.

I, Jack Taylor, Secretary of Alabama Electric Cooperative, Inc., hereby certify that the above is a true and correct copy of a resolution adopted at the meeting of the Board of Trustees of Alabama Electric Cooperative, Inc., on March 24, 1989, at which a quorum was present and voted.

I further certify that none of the said resolution has been altered, modified, or rescinded.

This the 24th day of March, 1989.

Jack L. Taylor
Secretary

LETTER FROM WALTER A. UNDERWOOD, DIRECTOR, SMALL BUSINESS DIVISION, ECONOMIC DEVELOPMENT DEPARTMENT, MOBILE AREA CHAMBER OF COMMERCE

April 4, 1989

Honorable J. Bennett Johnson, Chairman
Subcommittee on Appropriations
for Energy and Water Development
United States Senate
Washington, DC 20510

SUBJECT: Coosa-Alabama River System

Dear Senator Johnson:

On behalf of the 3,000 members of the Mobile Area Chamber of Commerce, I would like to take this opportunity to express our support for continued improvement to the Coosa-Alabama River System.

This river system plays a vital role in the shipment of international commerce (export/import) through the port of Mobile, one of the top 10 ports in the United States based on tonnage handled. This, of course, assists our international balance of payments with other nations.

We respectfully request that the FY 1990 Budget include sufficient funds to meet the Corps of Engineers capability for the overall operation and maintenance of these projects.

Sincerely,

Walter A. Underwood

Walter A. Underwood, Director
Small Business Division
Economic Development Department

Senator DOMENICI. Thank you very much.

Before we go to Mr. Clemens, let me for the record indicate to you that Senator Heflin and Senator Shelby have indicated their interest and support for these projects. We also have a statement from Congressman Natcher of Kentucky which will be made part of the record as well.

So all of those statements will be made part of the record at this point.

Mr. CLEMENS. Yes, sir; that is true. We appreciate that.

Senator DOMENICI. They will be included in the record.

[The statements follow:]

STATEMENT OF SENATOR HOWELL HEFLIN

FUNDS FOR THE TENNESSEE-TOMBIGBEE WATERWAY DEVELOPMENT AUTHORITY

Mr. Chairman, I am pleased to say that 1988 was a wonderful year for the Tennessee-Tombigbee Waterway. Commerce exceeded 9.9 million tons, which was more than twice the amount for the previous year.

Not only that, Mr. Chairman, the Tenn-Tom received national recognition as a viable route between the deepwater ports along the Gulf and mid-American during last summer's drought. The TVA system also was recognized last year when the Tennessee River was able to provide a guaranteed flow of 18,000 cubic feet per second to the lower Mississippi, and this resulted in a 3-foot stage increase at Cairo, Illinois.

Many companies are discovering the benefits of using the water system of the Tenn-Tom for movements of northbound commerce. These companies are realizing the savings from shipping by water instead of using other methods of transport.

Mr. Chairman, while much progress has been made on the Tenn-Tom, there is still more to do. Some counties within the Tenn-Tom Corridor have not yet enjoyed the economic opportunities offered by the waterway.

The states of Alabama, Mississippi, Kentucky and Tennessee have joined the Authority to initiate an economic development strategy for these counties. This strategy will

focus on assisting about 50 counties in the four states to improve their economic well being.

Mr. Chairman, I would like to respectfully request that this committee continue to fund the TVA and ARC development programs at or above this year's level.

Those testifying here today from the Tennessee-Tombigbee Waterway have other requests as well. I hope you will give these requests every consideration.

Thank you, Mr. Chairman.

FUNDS FOR THE COOSA-ALABAMA WATERWAY AND MOBILE HARBOR

Mr. Chairman, thank you for this opportunity to again appear before this committee on behalf of funds for the Coosa-Alabama Waterway and Mobile Harbor.

Again, because of your crowded agenda, my remarks will be brief. I hope you will give every consideration to the requests today from the members of the Coosa-Alabama Waterway.

The Coosa-Alabama River Improvement Association has three main objectives: (1) Maintaining the Alabama River as a viable waterway; (2) Continuing the deepening of the Mobile Harbor to accommodate the largest ocean-going vessels, and: (3) Opening the Coosa River for navigation.

Mr. Chairman, I would like to take some time today to discuss the status of these projects:

(1) Lower Alabama Rehabilitation Project - The dredge reference profile work is complete. Lowering the profile will increase the dependability of the river during low water seasons. The dredging was a necessary preliminary step to bringing the Alabama River to its full potential.

Phase One of the training dike construction will be done by the Ford Construction Co., and will begin after the high water period.

(2) As for the Mobile Harbor Deepening, the dredging program is now ahead of schedule. While the possibility of a December 1989 completion exists, the scheduled completion date is May 1990.

(3) The request for an update on the Coosa River Navigation project two years ago is nearing completion; the completion date is scheduled for May 1990.

Mr. Chairman, I urge you and the other members of the committee to approve the requests presented today by the Coosa-Alabama River Improvement Association.

Thank you, Mr. Chairman.

Funds for the Warrior-Tombigbee Waterway

Fiscal Year 1989

Mr. Chairman, I would like to thank you for this opportunity to again appear before the committee on behalf of funds for the Warrior-Tombigbee Waterway.

It is my understanding that under the appropriations items for Operations & Maintenance the Corps has been permitted to include in its budget request $12,264,000. The Corps expects to be allowed to state its need for an Additional Capability for O&M work needed beyond the $12.3 million now in the budget request.

Mr. Chairman, the $12.3 million should cover minimum day-to-day operations, but would not support an on-going program to correct long-standing deficiencies. For example, I understand that there are actions which have been going on incrementally for several years, designed to increase the efficiency of dredge material disposal and reduce recurring shoaling. Without additional funds, these actions would have to be deferred or even terminated. Orderly continuation of these projects is essential to ensure the efficiency and reliability of the waterway, and this will surely reduce future maintenance costs.

Mr. Chairman, those at the Warrior-Tombigbee Development Association feel that this need is at least equal to the current O&M request, but they feel that it is doubtful that the Corps will be permitted to ask for the full amount needed. I would like to show my support, for the record, for sufficient Additional Capability funding to permit the orderly and efficient continuation of on-going channel efficiency projects.

The importance of these projects, Mr. Chairman, was demonstrated vividly during the summer of 1988, when drought conditions on the Mississippi River resulted in tonnage

being more than double any prior experience on the Warrior Tombigbee Waterway between Demopolis and Mobile.

The second appropriation item which I would like to discuss today is a request for $12.5 million for the new Oliver Lock. This amount will support the orderly and timely continuation of contracts and the accompanying work to replace this one remaining substandard lock on the Warrior-Tombigbee Waterway.

Approval of the full $1.25 million, Mr. Chairman, is essential, as this amount will be matched with $12.5 million from the Inland Waterways Trust Fund to provide the total $25 million required for FY90. At this time, construction progress is excellent and with this funding, we fully expect that progress to continue.

Ironically, Mr. Chairman, the Oliver Lock and Dam was the first structure constructed under the Modernization Program which contemplated the construction of 5 new locks and dams to replace the original system of 17 dams and 18 locks with the exception of the uppermost structure in the system, namely, the John Hollis Bankhead Lock and Dam. Time and progress, however, have made the Oliver Lock obsolete as evidenced by the chronic barge congestion at the lock whose dimensions are only 95ft X 460ft. A new lock with standard dimensions is urgently needed if traffic on this busy river system is to continue unimpeded.

I urge the committee to approve the request that I and members of the Warrior-Tombigbee Development Association have set forth today.

Funds for the Apalachicola-Chattahoochee-Flint Waterway

Fiscal Year 1989

Mr. Chairman, today I would like to respectfully request that you appropriate the funds requested in the President's budget for the Operation and Maintenance of four multi-purpose dams on the Apalachicola-Chattahoochee-Flint (ACF) Waterway system, including the following:

Jim Woodruff Lock, Dam and Lake Seminole	$4,643,000
Buford Lock, Dam and Lake Sidney Lanier	$5,011,000
Walter F. George Lock, Dam and Lake	$6,379,000
West Point Dam and Lake	$4,029,000

As you will hear in the testimony given today by Phillip Hornsby, President of the Tri-Rivers System, there are six public ports along the ACF Waterway representing an investment of more than $15 million. Moreover, there are millions of additional dollars invested in private facilities and industrial operations.

In 1988, despite the severe drought period, over 847,000 tons of cargo traveled the river system. It is estimated that had the drought not persisted, the tonnage could have reached 1,5000,000 tons.

I hope you will give every consideration possible to the requests today of those who are here to represent the Tri-Rivers System, including Mr. Phillip Hornsby.

I thank you, Mr. Chairman.

STATEMENT OF SENATOR RICHARD SHELBY

Mr. Chairman, I appreciate as always this opportunity to appear before you today on behalf of the Coosa-Alabama River System.

The Coosa-Alabama River Improvement Association has requested FY 1989 funding for continued operation and maintenance of the Waterway. I am supportive of this request so that the following specific matters may be met: (1) resumption of design and engineering work on the Coosa Project, which was suspended in 1983; (2) continued rehabilitation and added construction of the training dikes for the Alabama River channel below Claiborne; (3) continued federal maintenance and operation of the Alabama River waterway from Mobile to Montgomery; (4) continued operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia; and (5) maintenance of the schedule for the Mobile harbor Deepening Project to 55 ft. depth.

The Alabama-Coosa Waterway system is a solid investment in future productivity and economic progress. Studies of completed waterways such as the Arkansas, the Gulf Intracoastal Waterway and also of the planned Coosa Project, show that the returns fully justify the investment. I pledge my continued full support for this project which holds such promise of economic benefit.

Thank you, Mr. Chairman, for this opportunity to offer testimony to this distinguished subcommittee on behalf of the Coosa-Alabama River System. I urge you to continue full funding for the project.

STATEMENT OF CONGRESSMAN WILLIAM H. NATCHER

MR. CHAIRMAN, we want you to know that we appreciate the opportunity to appear at this time in behalf of projects in Kentucky. You and our other friends on your Subcommittee have heard us say on many occasions that Kentucky has more miles of navigable streams than any other state in our country with the exception of one, and all down through the years we have suffered damages from floods and loss of lives. Only a few weeks ago we again suffered from flooding in Kentucky and although no lives were lost, millions of dollars in damages resulted.

The Salt River Basin study was authorized in the year 1964 and as a result of this Study, three projects were recommended. These projects were Taylorsville Reservoir, Camp Ground Reservoir, and Howardstown Reservoir. The Taylorsville Reservoir has been completed and over $800,000 expended for studies on the Camp Ground Reservoir. So far, two Governors in Kentucky have refused to enter into agreements with the Corps of Engineers on the Camp Ground and the Howardstown Reservoirs. Kentucky is now obligated, under the old law, for one-half of the recreation costs for Taylorsville, Paintsville, and Yatesville. So far, two of our Governors have maintained that the recreation costs of the three would bring about expenditures on the part of the state in amounts that would prohibit any further agreement concerning the two remaining projects in the Salt River Basin Study. We now have a new Governor in Kentucky and I hope, Mr. Chairman, that after the flooding again this year, some sort of an agreement can be reached whereby Camp Ground can be constructed.

Mr. Chairman, I will appreciate it if you and the Members of your Subcommittee will consider placing into your bill for Fiscal Year 1990 the sum of $75,000 to be used under the Salt River Basin Study which was not completed, and with this money to be used for a final study and determination of the Camp Ground Reservoir. Your Committee and the Corps of Engineers have filled every requirement concerning this particular project and now it is up to the Commonwealth of Kentucky as to whether or not we will prevent floods in the future

such as the ones we have had within the last four months by the construction of the Camp Ground Reservoir.

I respectfully request that the projects and funding set forth in the budget for Fiscal Year 1990 for Kentucky be approved. I join all of my colleagues from Kentucky in the House and in the Senate in their requests for our state and their districts.

Mr. Chairman, I respectfully request that the $200,000 set forth in the budget for Fiscal Year 1990 for surveys of the Green and Barren Rivers in Kentucky be approved. In addition, I respectfully request that the small construction item of $1,500,000 on the Taylorsville Lake Project be approved.

MR. CHAIRMAN, again I want to thank you and the Members of your Committee for permitting us to appear at this time on behalf of the Kentucky Projects.

Senator DOMENICI. Would you proceed, please Mr. Clemens?

Mr. CLEMENS. Mr. Chairman, with your permission I would like to do two things out of order, perhaps. One is to introduce our delegation as a group, not individually, but ask them to rise, from the Coosa-Alabama River Improvement Association. [Large group standing.]

Senator DOMENICI. Please do that. I understand that you are Representative Bevill's constituents; is that correct? You understand that anyone from his district is welcome here.

Please proceed.

Mr. CLEMENS. In addition, Mr. Chairman, on your far left, my far right, Dr. Don Hines, the chief of the planning and economic development division of the Alabama Department of Economic Community Affairs, is going to speak next with your permission.

Senator DOMENICI. Please.

Dr. HINES. Thank you, Ralph.

Senator, we do appreciate the opportunity to be with you today. As you noted, Governor Hunt's comments have been submitted, and you have made them part of the record.

We would simply state our complete support of the proposals contained herein and to note that all of Alabama is a constituent of Congressman Bevill.

Thank you, sir.

Mr. CLEMENS. Mr. Chairman, as we enter our 100th year, the Coosa-Alabama River Improvement Association quite likely is one of the oldest, if not the oldest, continuously functioning waterway development associations in this country. We are proud of that, and we want to press on in the next 100 years to do even more.

In the interest of time I will not go through the entire operation that I gave this morning. What I would like to do is focus your at-

tention on three very important proposed amendments to the Water Resource Development Act of 1986.

First of all, we would like to see included in these amendments a proposal to exempt nondeveloped and developing waterways from cost sharing until tonnage reaches a predetermined and negotiated level. That would be obviously with Congress primarily, the Corps of Engineers, et cetera.

That is something that would resolve a perception on the part of the small tributary users, shippers, and association members throughout the United States that, in fact, the act begins to discriminate against them because they are unable to develop the cost-sharing finances necessary under the Act of 1986.

Point No. 2, we introduced section 140 of the Act of 1976 which enables the Secretary of the Army to use regional benefits and benefit clause computations.

Finally, require the users board membership to include representation of small tributary users, shippers, and association members.

That is a very brief synopsis of the proposal I was going to give. I certainly appreciate your time and your support, Mr. Chairman. It is good to be here today from Alabama.

Senator DOMENICI. Thank you, and I appreciate, on behalf of the committee, your brevity. Certainly we will put all of the information in the record, and we will do our very best.

Thank you for your time and your patience with us.

Mr. CLEMENS. I will add, Mr. Chairman, we know that as a matter of technical requirement a request for the change to the law should go through the authorizing as opposed to the Appropriations Committee, but, like Mr. Bevill's case, we wanted to bring it to the people who could help us most, and we appreciate it.

Senator DOMENICI. Thank you very much.

John Dutton, director of the Alabama State Docks Department, is our next witness. Mr. Dutton will address the issue of the deepening of the Mobile Harbor.

Mr. Dutton, would you please proceed. If you have a prepared statement that you would like to make a part of the record, it will be so included. If you want to read it, it is up to you. We would encourage that you be as brief as possible, and we appreciate that very much.

STATEMENT OF TED McDONALD, GENERAL MANAGER FOR ADMINISTRATION, ALABAMA STATE DOCKS

ACCOMPANIED BY SHELDON MORGAN, CHAIRMAN, WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

Mr. MCDONALD. Mr. Chairman, I am Ted McDonald, the general manager for adminstration of the Alabama State Docks. Mr. Dutton was unable to be here as a matter of technicality.

I have with me Sheldon Morgan, who represents the Ports and Waterways Task Force of the Mobile Area Chamber of Commerce.

It is a pleasure for us to appear before this committee on behalf of Governor Hunt and the citizens of Alabama.

As you may be aware, the Port of Mobile serves as the deepwater terminal for over $16,000 miles of inland waterway through-

out mid-America and is directly or indirectly responsible for over 19,000 jobs in our State.

We have invested in our existing facilities, and we are developing new markets and expanding port operations to serve the waterborne transportation industry.

We are also partners with the Corps of Engineers in deepening the Mobile ship channel to 45 feet as well as providing over 600 acres of dredge material disposal sites for channel maintenance.

The Alabama State Docks expenditures over the last 3 years has been over $13 million in funds for continuation of channel deepening and maintenance. We look forward to the completion of channel deepening in December of this year and the continued maintenance dredging which maintains one of America's most vital ports and improves the balance of payments with our trading partners abroad.

We respectfully request that the committee increase the Corps budget request for operation and maintenance funding for Mobile Harbor from 1990 from $6,700,000 to the Corps capability to provide for full project restoration, and we respectfully request that this committee submit the Corps budget request for construction general funding of $2,196,000 for completion of the 45-foot channel deepening project.

We have provided a written statement for the record of these proceedings and request that they be made a permanent part of the record.

Mr. Chairman, that completes my remarks.

[The statement follows:]

STATEMENT OF JOHN B. DUTTON, DIRECTOR, ALABAMA STATE DOCKS DEPARTMENT

On behalf of the Alabama State Docks Department and the Port of Mobile we appreciate the opportunity to again appear before this Committee and offer this statement in regard to fiscal 1990 appropriation measures relative to Mobile Harbor.

The Alabama State Docks Department is the terminal facilities operator for the Port of Mobile and operates and maintains cargo handling facilities at Mobile, Alabama which include a Bulk Material Handling Plant, Public Grain Elevator, Export Coal Handling Terminal, general cargo facilities including wharves, piers and warehouses as well as a Terminal Railway. In addition, the Alabama State Docks operates a number of inland port terminals throughout the river systems of the State of Alabama. The Alabama State Docks is located at the terminus of the Tombigbee, Black Warrior-Tombigbee, and Alabama-Coosa River systems.

The port complex as it exists today entails approximately 1445 acres and is valued in excess of $500 million.

The primary cargoes handled through the Port of Mobile include inbound ores such as bauxite, manganese, magnetite, ilmenite, iron ore and steam coal. Grain exports include soybeans, corn, wheat, oats, milo, middlings, and screenings. Coal for export constitutes a major cargo as well as outbound crude oil which moves to the Port from recovery operations in Florida and North Mobile County.

General cargo tonnages increased from 1,912,000 tons in the fiscal year `87 to 2,361,956 tons in fiscal `88 or an increase of 449,956 tons. Container units handled increased from 9,1183 units to 12,257 units or an increase of 3,074 containers for the period.

McDuffie Export Coal Terminal had a large increase of 2,440,940 tons. The coal terminal handled a total of 6,264,509 tons in fiscal '87 compared to 8,705,449 tons in fiscal '88.

The Department's Bulk Material Handling Plant registered a small decrease from 2,269,321 tons in fiscal '87 to 1,879,761 tons in fiscal '88. We are dedicated to increasing tonnage this year.

The Department's Public Grain Elevator which handled 2,864,840 tons in fiscal '87 handled only 630,429 tons in fiscal '88 a decrease of 2,234,411 tons. We have employed a specialist to market our facilities to grain export interests in the mid-west and believe we can recapture the market to 1987 levels.

Despite the decreases at the Bulk Material Handling Plant and the Grain Elevator total Alabama State Docks facility tonnages increased by 266,925 tons from 13,310,670 tons in fiscal '87 to 13,577,595 tons in fiscal '88.

Total port tonnages rose from 28,569,070 tons in fiscal '87 to 31,320,265 tons in fiscal '88 or an increase of 2,751,195 tons.

During the last decade the Alabama State Docks Department and the State of Alabama have expended in excess of $250 million on renovations, expansions and improvements to the Port's handling capabilities at Mobile and we are continuing to expend financial resources to improve the port. Most recently the renovation of an existing warehouse facility was completed which will serve as a modern forest products terminal at a cost of $10 million.

Additionally, plans are underway for the creation of an iron and steel berth for the handling of both import and export cargoes as well as project and heavy lift tonnages.

Alabama State Docks funds have, of course, been expended to meet present as well as future cargo handling requirements by those loyal users of the Port's facilities through our inland

river system, the five trunk line railroads which serve the port, and the over fifty truck lines which initiate and terminate cargo in Mobile.

In our testimony in previous years we have discussed with this Committee the acquisition and utilization of existing dredged material disposal sites. The Alabama State Docks has cooperated with the Corps of Engineers in the systematic planning for management of sediment disposal. The management system is now in place and we are pleased to advise this Committee that the Alabama State Docks has acquired or is legally engaged in acquisition of all disposal sites for full implementation of the management plan.

Acquisition of dredged material disposal sites for a total of over $6.0 million will significantly and positively benefit the Department as the non-federal sponsor for channel maintenance in Mobile. Because of the lack of dredged material disposal sites, the last few years, the Mobile River channel has not been restored to full project authorized dimensions since Hurricane Frederic in 1979. The Alabama State Docks Department has now acquired adequate sites and has cooperated with the Corps of Engineers in developing a strategy for restoration of authorized project dimensions within the next two years. Further, maintenance of the main ship channel and bar entrance channel for movement of the over 1,200 vessels calling at the Port of Mobile annually is imperative. The Department respectfully requests that this Committee increase the Corps of Engineers budget request for Operation and Maintenance funding of Mobile Harbor for fiscal year 1990 from $6,700,000 to the Corps capability to provide full project restroation.

The deepening of Mobile Harbor to 45-feet has been an excellent example of the federal-non-federal partnership for which

the Department has expended $7,911,000 through December 1989, 83% of funds requested. The Alabama State Docks Department therefore respectfully requests that this Committee support the Corps budget request for construction general funding of $2,196,000 for completion of the 45-foot channel deepening project.

We again appreciate the opportunity to appear before this Committee and voice our support in concert with that of Governor Guy Hunt for the Fiscal 1990 budgeted allocation to reflect the requested amounts.

The Alabama State Docks Department respectfully requests this statement be incorporated in and made a part of the permanent record of these Hearings.

LETTER FROM GUY HUNT

April 4, 1989

The Honorable J. Bennett Johnston
Chairman
Subcommittee on Appropriations for
Energy and Water Development
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

It is once again a pleasure to have the opportunity to participate before this Subcommittee with the Coosa-Alabama River Improvement Association in support of the federal water resources project on the Alabama-Coosa Waterway in Alabama.

I join with the Coosa-Alabama River Improvement Association in requesting funding of ongoing activities by the Corps of Engineers to provide a more dependable waterway, the operation and maintenance funds necessary to provide a viable inland navigation system, and continuation of activities evaluating the possibility of moving forward on the Coosa River navigation project above Montgomery, Alabama to Gadsden, Alabama. Only with these activities appropriately funded can this system reach its potential, providing for regional development opportunities as well as national economic development.

During the past year Alabama, like other states, was severely impacted by the drought. The impact was especially devastating on the Alabama-Coosa Waterway. In future droughts, however, we understand with the completion of Corps of Engineers activities on the lower Alabama River, including rehabilitation of existing works, this river system would not be as severely impacted under similar circumstances.

With the enactment of the "Water Resource Development Act of 1986" (PL 99-662), a new level of emphasis has been placed on the State as the potential non-federal sponsor of federal water resource projects such as the Alabama-Coosa Waterway. In response to this need and others related to water resources, I recently created a two year study commission, the Alabama Water Resources Study Commission. This commission is charged with developing alternatives and recommendations as to the future directions of the state in water resources.

I would also like to take this opportunity to request your assistance in obtaining increased level of participation of the Corps of Engineers program of technical planning assistance to Alabama under the provisions of Section 22, Public Law 93-251. This program has been very helpful but very limited. Even though recently the authorization for this program per state was increased by 50 percent, funding has been at levels approaching only 10 percent of authorization. This has prevented the initiation of projects including assistance in developing a statewide drought management mechanism.

The inland waterway system is vital to Alabama and the nation and I pledge my continued support.

Sincerely,

Guy Hunt

Guy Hunt

LETTER FROM JOHN B. DUTTON

April 4, 1989

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Alabama State Docks funds have, of course, been expended to meet present as well as future cargo handling requirements by those loyal users of the Port's facilities through our inland river system, the five trunk line railroads which serve the port, and the over fifty truck lines which initiate and terminate cargo in Mobile.

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The deepening of Mobile Harbor to 45-feet has been an excellent example of the federal-non-federal partnership for which the Department has expended $7,911,000 through December 1989, 83% of funds requested. The Alabama State Docks Department therefore respectfully requests that this Committee support the Corps budget request for construction general funding of $2,196,000 for completion of the 45-foot channel deepening project.

We again appreciate the opportunity to appear before this Committee and voice our support in concert with that of Governor Guy Hunt for the Fiscal 1990 budgeted allocation to reflect the requested amounts.

The Alabama State Docks Department respectfully requests this statement be incorporated in and made a part of the permanent record of these Hearings.

John B. Dutton
Director

Senator DOMENICI. Thank you very much.

Did you desire to testify?

Mr. MORGAN. No; thank you.

Senator DOMENICI. We will note your presence.

Mr. Mcdonald, I apologize for not knowing that you are not Mr. Dutton.

The last group we have before us is headed by Offa Nichols, Jr., president of the Warrior-Tombigbee Development Association. Do you have some associates with you? If you would introduce them for us, and then please proceed.

WARRIOR-TOMBIGBEE WATERWAY, AL

STATEMENT OF OFFA S. NICHOLS, JR., PRESIDENT, WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

ACCOMPANIED BY:

DON HINES, CHIEF, PLANNING AND ECONOMIC DEVELOPMENT DIVISION, ALABAMA DEPARTMENT OF ECONOMIC COMMUNITY AFFAIRS, ON BEHALF OF GOVERNOR HUNT, ALABAMA

JOHN MIXON, GENERAL MANAGER, WARRIOR AND GULF NAVIGATION

SHELDON MORGAN, CHAIRMAN, WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

Mr. NICHOLS. Thank you, sir.

With me on my far right is Dr. Don Hines, representing the Governor, who has spoken earlier; Sheldon Morgan, who is chairman of the Warrior-Tombigbee Association, who was here with the port group; and John Mixon, who is with Warrior and Gulf Navigation, the largest touring company owned in the Alabama area.

Don, would you like to say anything in addition?

Senator DOMENICI. Incidentally, I saw the Governor at the Gridiron Club over the weekend. I hope he enjoyed himself. It was a good evening. He looked hail and hardy and upbeat, so I hope he is still that way today.

Mr. NICHOLS. Senator, we will be very brief. We have submitted a formal statement with attachments from a number of companies supporting the importance of the testimony that we have given.

Just for perspective, our waterway originates in Mr. Bevill's district, and it runs from Mr. Bevill's district to Birmingham to Tuscaloosa to Demapolis where the Tenn-Tom connects into the Warrior-Tombigbee and then to the Port of Mobile.

In essence, we have a very short story here. For a number of years we have been coming here on behalf of the Warrior-Tombigbee waterway system, in fact since 1950. At that time the system was old and deteriorated, had a system of old turn-of-the-century locks and dams, and the traffic was almost nonexistent.

A modernization program was begun through the Civil Works Program with the support of Congress. Projections indicated that should the modernization be made, by 1980 the system would carry 8 million tons of traffic which would pay back the Federal investment many times over.

What has happened in that period of time is that five of the old locks have been completely rebuilt. Traffic has grown. In fact, it touched 8 million tons of traffic in 1966. In 1980 it was 17 million

tons of traffic, double the projection, and now it is running at the 20 million ton level.

Thanks again to this committee, the other lock, Oliver Lock, is now being replaced. We are happy to report to you that it is leading the pack of the newly authorized locks, and, in fact, the foundation concrete is now being poured for that lock. We expect the first tow through there in the latter part of 1991.

Senator DOMENICI. What is that lock called?

Mr. NICHOLS. William Bacon Oliver. It is located at Tuscaloosa, AL, which is midpoint of this particular system.

To further support the wisdom of having gone ahead with the Warrior-Tombigbee project and the modernization, last summer when the Mississippi was all but shut down and shippers began to look to the alternate route of the Tenn-Tom, they utilized the lower part of the Warrior-Tombigbee system from Demapolis to Mobile. During the month of July the great surge in traffic produced an annual rate more than twice anything that had ever been counted on the system before.

By virtue of the modernization work that had been done and is still in progress, that system was able to respond and saved many, many jobs.

We do need a little extra help this year. First, I need to point out that this is a natural system. It is not a system that was designed and built according to design specification, but it has been adapted from the waterway that Mother Nature put there.

Mother Nature has a tendency to change things as time goes on, and we have to respond to keep the waterway manageable and efficient.

So we believe that we need about $2.5 million above the figure in the Corps of Engineers' O&M budget in order to protect this program that we have been working on for a number of years and to continue to get the return on the moneys that have been invested.

In the testimony that we have submitted, you will find many, many examples of investment made locally in response to the Federal investment made on this system. I would like to point out that the Alabama State Docks, on whose behalf Mr. McDonald just testified, in the recent past this one single local organization has invested more money in modernizing to keep up with the growth of water traffic in Alabama than the Federal Government has had to spend on the entire Warrior-Tombigbee waterway system including all the locks and dams and the new Oliver Lock which is now under construction.

The money we seek has been money well spent in the past. We commit to you if we get the money this year and next year, we will spend it as wisely as we have up to now.

Thank you, sir.

[The information follows:]

STATEMENT OF OFFA S. NICHOLS, JR.

SUMMARY OF THE REQUEST

The following is a summary of the funding items for the U.S. Army Corps of Engineers for FY90 which bear on the needs of the Warrior-Tombigbee Waterway, and which we ask the Committee to approve:

Warrior-Tombigbee Waterway

Operations & Maintenance Funds included in Corps' Budget Request	$12,264,000.
Funds for Additional Capability for O&M, not included in Corps' Budget Request	2,500,000.
Total O&M Funds Required	14,764,000.
Funds for New Construction, included in Corps' Budget Request - Oliver Lock	$25,000,000.
Total New Construction Funds Required	$25,000,000.

Other needs allied to the Warrior-Tombigbee are:

Mobile Harbor

Operations & Maintenance Funds, included in Corps' Budget Request	6,695,000.
Funds for New Construction, included in Corps' Budget request	2,196,000.

We wish to highlight the item identified above as "Additional Capability." Since funds for this item were not included in the Corps' Budget Request, it is not clear to us whether the committee has been informed of the essentiality of funding for certain of these Additional Capabilities. We emphasize the need for additional O&M Capability funds if we are to have an adequate current year program, and to support on-going projects designed to improve safety and efficiency, and to reduce future costs. Additional funds are critical to the efficiency of this waterway.

I am Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association. Our members represent a broad cross-section of shippers, carriers and the general business community in the Warrior-Tombigbee basin in Alabama, and eight other states. The Association began in 1949 to work for the redevelopment of the Warrior-Tombigbee Waterway System. Construction of the original 17 locks and dams began in the late 1870's and was completed in 1915. The navigation system provided by these locks and dams had gradually deteriorated, and following World War II the annual tonnage had levelled off at 2.5 million tons due to the condition and limited capacity of the obsolete locks.

The Association's objectives have been not only the replacement of the outmoded locks and dams and improvements in the Port of Mobile area, but also the appropriation of sufficient O&M funds to support efficient and reliable navigation. Congress has generally appropriated the necessary funds to support these objectives. There are now only six (6) locks in the 400-plus miles from the head of navigation, located northwest of Birmingham, to the Port of Mobile. During the studies which resulted in this redevelopment, it

was projected that by 1980 the Waterway would carry some 8 million tons annually. These levels were reached in 1966, and by 1980 twice the projected tonnage was being moved on the Waterway. Traffic has since reached a peak of 20 million tons.

With the completion of the new William Bacon Oliver Lock in 1991, the Warrior-Tombigbee Waterway will have a system of modern and standard-sized locks throughout its length. Together with the other five locks opened between 1954 and 1975, this system represents a noteworthy example of the positive impact of the water resource development program. The most persuasive evidence of the validity of this project and the wisdom of those who made it possible comes from the record as stated above. The record shows that, since the modernization of the Warrior-Tombigbee Waterway began, traffic has increased from just over two million tons annually to 20 million tons, more than double what had been projected.

During this decade, due in large part to the modernization of this waterway, several billion dollars have been invested by industry, farmers and other non-Federal governmental agencies, providing thousands of jobs. The Alabama State Docks', as a result of a recently completed $250 million expansion program, now offers the most advanced coal handling technology available in this country, along with similar improvements for grain handling and bulk materials. It is interesting to note that the investment by this one local agency exceeds the later Federal investment in building all the locks and dams on the entire waterway, including the new Oliver Lock. Now even more expansion is underway to handle increased shipments of forrest products as well as iron and steel products. We are asking for the continuation of federal investments which pay off many fold.

Today's traffic and ever increasing demands require that the Waterway operate at peak efficiency on a full-time basis. Shipments of ore, steel and related products are increasing because of the new and modern manufacturing facilities at U.S. Steel. The continued efficiency and modernization of the waterway were important factors in U.S. Steel's recent decision on even further modernization of their Fairfield facilities -- clearly a major factor in the survival of Fairfield as a viable facility. This brings U.S. Steel's investments during this decade to about $1 billion. A new $100 million mini-mill has been built near Tuscaloosa - the first such new facility to be built in this country in 19 years. Output is already nearly 50% ahead of forecasts. Major mining interests and marine equipment and facilities account for another $1 billion in investment. The efficiency and reliability of the waterway will be significant factors in the competitiveness of these new facilities. Thousands of jobs hang in the balance.

There are other commodities moving on the waterway, such as other ores, crude and fuel oils, other steel products, chemicals, aggregates and now, by substantial increased tonnages of wood products. Related industries, though still impacted by the competitive international markets, are beginning to grow and modernize.

These are but examples of how this waterway is so central to the economy of this entire area, impacting both domestic and international markets. Attached with this statement are letters further highlighting this importance. I hope you will note the wide range of interests represented by these statements. Included are financial institutions; public utilities; both deep water and inland port facilities, representing both public and private ownership; coal mining, both deep and surface; manufacturers; agri-business; suppliers; constructors; and, of course, marine interests. These represent a broad cross-section of the economic heartbeat of an entire region. Throughout these statements you will find repeated references to the importance of confidence in the waterway to the willingness of business and industry to continue to invest in our area.

With respect to the actual funding needs, we support the Corps' request for O&M funds for the Warrior-Tombigbee. However, the requested level of funding, $12.3 million, will not support the kind of O&M program essential to keeping the system reliable and efficient. The funding requested is more than $1 million less than the average requirement over the past several years for day-to-day operations, and is not adequate to support normal and efficient operations during FY90. Nor will these funds permit the continuation of on-going programs designed to correct deficiencies of long standing, and to handle the increased traffic on an efficient, long-term basis. Work is being done to reduce sedimentation and shoaling, which will reduce O&M costs in future years. Non-structural measures are underway which will increase efficiency and traffic flow through several reaches of the Waterway, thereby enhancing its ability to handle the much greater traffic than had been anticipated. These measures result from studies conducted following the unprecedented and destructive flooding in 1979 and 1980. They are part of the intermediate range actions subsequently approved to deal with the impact of these conditions, and to ameliorate the recurring effects encountered during all but ideal flow conditions. To stop or significantly delay these projects would be a severe blow to the current efficiency and reliability of the channel, and even worse on its future. At the time of the preparation of this statement, the Corps had not released the approved "additional capability" figures, and based on recent experience, we will not know what the approved figure is at the time of the hearings on April 4, 1989. However, based on a close following of these projects and the known deficiency in the O&M budget request, the additional need for FY90 is a minimum of $2.5 million.

We support the New Construction funds as indicated in the Corps' request. These funds will support the orderly continuation of the construction of the new Oliver Lock and the deepening of Mobile Harbor. Through the wisdom and steadfast support of the Appropriations Committee, it was possible to accomplish the planning, design and initial construction at Oliver on an orderly and efficient basis. Preliminary work is complete, and work has begun on the construction of the lock chamber and the dam. Inclusion of the entire Federal share of $12.5 million for Oliver Lock is critical as this will be matched by an equal amount from the Inland Waterway Trust Fund to produce the required $25 million. Therefore, any reduction would be doubly detrimental.

Summary of Funds Requested

Warrior-Tombigbee Waterway

Operations & Maintenance Funds included in Corps' Budget Request	$12,264,000.
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Other needs allied to the Warrior-Tombigbee are:

Mobile Harbor

Operations & Maintenance Funds, included in Corps' Budget Request	6,695,000.
Funds for New Construction, included in Corps' Budget request	2,196,000.

We believe the Warrior-Tombigbee Waterway is a classic example of the positive aspects of the Civil Works Program. The Congress has seen its potential and has supported its program. And now the project continues to demonstrate its worth, having more than doubled the projected annual tonnage and benefits.

During the severe draught in 1988, this waterway operated normally, and with the Tennessee Tombigbee, provided an alternate route for cargo unable to move otherwise. Annual tonnage rates more than doubled again during part of this period.

We fully endorse and seek the approval of these items. I, as President of The Warrior-Tombigbee Development Associatin, our other Offices, our Board of Directors, and our Members appreciate the consideration of the Chairman and members of this Subcommittee and its staff have shown us over the years. I wish to emphasize that the funds which we seek are of investment category, not expense. This is seed money, spawning reinvestment many times over. We ask for your support once again.

We are attaching additional written statements of support, along with a witness list, representing a cross-section of business, industry and the public.

Thank you for your consideration. We stand ready to answer questions.

LETTER FROM GUY HUNT

April 4, 1989

The Honorable J. Bennett Johnston
Chairman
Subcommittee on Appropriations for
Energy and Water Development
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

It is once again a pleasure to participate in the Subcommittee hearings with the Warrior-Tombigbee Development Association in support of the federal navigation project on the Black Warrior and Tombigbee Rivers in Alabama.

The Warrior-Tombigbee Development Association has, over the years, provided the leadership necessary to provide a high level of utilization of the Black Warrior-Tombigbee navigation project. The harnessing of this resource has provided many jobs within Alabama and assisted in the wise utilization of our natural resources providing economic gain with minimal environmental impact. Alabama, however, is not the only recipient of these benefits; our trading partners in other states and counties also benefit from this national waterway system, through the low cost movement of products in a fuel-efficient and safe method of transportation.

I join with the Warrior-Tombigbee Development Association in requesting continued federal funding of the federal navigation project on the Black Warrior-Tombigbee Rivers at a level which will ensure the timely completion of the William Bacon Oliver Lock and Dam, provide the level of maintenance and operation of the project which will allow for its maximum utilization and the funding necessary to allow for the continuation of ongoing activities to increase the efficiency of this project.

I would also like to take this opportunity to request your support to take the necessary steps to provide an increased level of activity in regard to the Corps of Engineers program of technical planning assistance to states under Section 22 of Public Law 93-251. This program has been helpful to the state. Even though funding authorization has been raised to $300,000 per year, per state, the allocation for studies in Alabama has been minimal. This has not allowed the Corps of Engineers to address the needs in a timely fashion. Study activities currently requested, but unfunded, include an economics base study for the Black Warrior-Tombigbee Basin and assistance in developing a statewide drought management plan.

I recently established by Executive Order Number 27, the Alabama Water Resources Study Commission. This Commission is charged with assisting in defining the role of the state in regard to water resources. A principal activity will include reviewing how the state has met its responsibility in the past as the non-federal sponsor of federal water resource projects and with the enactment of the "Water Resources Development Act of 1986" (PL 99-662), what additional steps the state needs take to prepare for increased responsibility mandated by the Act.

I again pledge my support to maintaining a viable national inland waterway system.

Sincerely,

Guy Hunt

Guy Hunt

STATEMENT OF JOHN B. DUTTON

The Alabama State Docks Department is again pleased to appear before this Committee on behalf of the Warrior-Tombigbee River System, and we would like to express our appreciation for your diligence with respect to the dedication and energy with which this Committee annually undertakes such an important task.

This nation's inland waterway system is a true national asset with quantifiable benefits to the shippers, receivers, importers, and exporters of our nation. This Committee over the years has done a most admirable job in greatly enhancing utilization of this tremendous national resource.

The Warrior-Tombigbee River System is one of the heavier utilized waterways in the United States and its operation and maintenance are of vital importance to the State of Alabama and the Alabama State Docks Department.

The Alabama State Docks Department over the last ten years has engaged in a continuing program of renovation of its existing facilities, and of new construction and expansion programs, investing in excess of $250 million in the last decade. We have put into place at the Port of Mobile the newest and most technologically advanced deep-water terminal cargo handling facilities in the United States. The Port of Mobile is at the southern terminus of shallow-draft navigation on the Warrior-Tombigee River System and we highly value the cargo generated by the waterway.

The Department's Bulk Handling operations at the Port of Mobile are vital to the whole MidAmerica Region of the United States as well as the State of Alabama, and in concert with our Inland Waterway System, functions as an expedient and cost-effective means of shipping products produced and manufactured in the State of Alabama and in MidAmerica into world markets.

Major shipments of bulk ores are handled through the Department's Bulk Material Handling Plant and a large percentage of this tonnage moves on the Waterway System.

In the early years, the Warrior-Tombigbee Waterway was the cost-effective catalyst for moving large volume coal shipments from the North part of the State through the Department's McDuffie Terminal Coal facilities for export all over the world. In addition, volume shipments of grain move annually from inland elevators located on the Warrior-Tombigbee Waterway by barge to the Port of Mobile for subsequent export to consuming nations in the far East and Europe.

The highly competitive posture of the Alabama State Docks and the Port of Mobile is a direct result of the Port's enviable

inland transportation infrastructure. Four major rail lines and one regional carrier serve the Port of Mobile; however, it is the State's inland river system that continually gives the Port its competitive edge in the world market.

The Warrior-Tombigbee provides a major transportation artery for large volume bulk shipments moving to and from the Port, and the Waterway's continued Operations and Maintenance are of a vital importance to the Alabama State Docks, the Port of Mobile and the State of Alabama.

We join with Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, in his testimony with respect to the Corps' Budget for Fiscal Year 1990 funding and support the Budget request for $12.3 million in Operating and Maintenance funds and $25.0 million in continued construction funds for the Black Warrior-Tombigbee's and Oliver Lock. There is, however, a need indicated and we do support additional funding to the Corps of Engineers capability in an amount sufficient to support continuation of ongoing work.

This River System constitutes an integral part in local, national and international trade, and we at the Alabama State Docks Department fully support its continued growth and development.

STATEMENT OF JOHN L. McCARRON, JR., CHAIRMAN, PORTS AND WATERWAYS TASK FORCE, MOBILE AREA CHAMBER OF COMMERCE

Please let me express to you our appreciation for the opportunity to present this statement to this Committee on behalf of the Port and Waterways Task Force of the Mobile Area Chamber of Commerce in regard

to fiscal year 1990 budget requirements relative to the waterways projects in the Mobile area.

Our Task Force committee is comprised of all facets of the maritime community in the Port of Mobile, which services include pilots, tugs, towboats, agents, marine suppliers, stevedores and terminal operators. As such, we feel that our Task Force is very representative of the marine interests in our port.

We are cognizant of the vital benefits derived from having the Alabama State Docks Department in a position to handle the myriad requirements of the safe movement of maritime cargo from inland conveyances to waterborne vessels. As such, an integral part of this is adequate and continuous water depth to meet the needs of this foreign waterborne commerce.

Our major concern is the absolute necessity to have adequate and maintained depth for the Port of Mobile in its role in the movement of international commerce as well as the Port's vital role in the area's economy. Of particular importance is the appropriation request by the U. S. Army Corps of Engineers for $6,695,000.00 for the maintenance dredging of the Mobile harbor (OMN) which includes our Theodore Ship Channel. During past years the maintenance dredging in the ship channel has fallen behind and it is of the utmost importance that our harbor be dredged as soon as possible to its full project dimensions. This restricted dredging in prior years was due to inadequate sediment disposal sites, however, this impediment has been corrected.

We also respectively request that funding be provided for the following:

A. Mobile Harbor (deepening) which funds will be used to complete construction of the 45' x 400' foot channel: $2,196,000.00

B. An appropriation of $3,500,000.00 for work to be performed in the Three Mile Creek, Mobile, Alabama flood prone area.

C. Completion of the local cooperative agreement and plans and specifications for the dredging of Bayou La Batre, AL: $134,000.00

We appreciate and thank you for the opportunity to present this statement to the Committee and support fiscal year 1990 budget allocations as stated above. We respectfully request that this statement be inlcuded and made a part of the permanent record of these hearings.

LETTER FROM JAMES A. VANN, JR., EXECUTIVE VICE PRESIDENT AND GENERAL MANAGER, ALABAMA ELECTRIC COOPERATIVE, INC.

March 13, 1989

Honorable J. Bennett Johnston
Subcommittee on Energy and
Water Development
United States Senate
Washington, D. C. 20510

Re: FY90 Corps of Engineers Funding For Warrior-Tombigbee Waterway and Port of Mobile

Dear Senator Johnston:

On behalf of Alabama Electric Cooperative, Inc. (AEC) and its member systems, I would like to request your continued support of the FY90 Corps of Engineers' funding for the Warrior-Tombigbee Waterway and the Port of Mobile.

Water transportation is vital to AEC because it is the most economical way to ship coal to our Lowman Power Plant (formerly

Tombigbee Power Plant). Therefore, I urgently request that adequate funding be appropriated for the Warrior-Tombigbee Waterway and the Port of Mobile. Our member systems count on u for reliable, low cost electricity. Keeping our fuel transportation cost down is one very important way to insure our rates will remain as low as possible. A more detailed statement is attached relating to this matter.

I would like to take this opportunity to thank you for your past efforts in this matter, as well as other areas related to the rural electric program. I sincerely hope that you lend your support to see that the Corps of Engineers' budget request is approved.

Sincerely yours,

James A. Vann, Jr.
Executive Vice President
and General Manager

STATEMENT OF THE ALABAMA ELECTRIC COOPERATIVE, INC.

Alabama Electric Cooperative, Inc. (AEC) along with its 22 member systems fully support the testimony of Offa S. Nichols, Jr., President, Warrior-Tombigbee Development Association, before your Subcommittee. As a member of the Warrior-Tombigbee Development Association, AEC joins with the association in its endeavor to improve the efficiency and reliability of the Black Warrior-Tombigbee Waterway.

AEC is a generation and transmission electric cooperative which supplies wholesale power to sixteen distribution cooperatives, four municipalities and two industries in central and south Alabama and northwest Florida. The distribution cooperatives and municipalities serve approximately one-half million consumers in sparsely populated areas. Because of these sparsely populated service areas, the cost associated with the distribution of electric energy is substantially greater than in heavily populated urban areas of the country. Therefore, these non-profit, consumer-owned entities, operate on extremely thin margins, which means that anything significantly affecting the cost of generation, transmission or distribution of electric

energy is of utmost concern and interest to AEC and its members systems.

Our Lowman Power Plant (formerly the Tombigbee Power Plant), a coal fired generating plant, is located at mile-point 89 on the Black Warrior-Tombigbee Waterway. The majority of the electrical energy which AEC delivers to its members is generated at the Lowman Plant. This electrical energy is delivered over AEC's transmission system and is also wheeled over other companies' transmission systems when the need arises. During the 1960's, the first 75 MW unit was installed at the Lowman Plant. Again in the 1970's the Lowman Plant was selected for the installation of two 235 MW coal-fired units. One of the major considerations in selecting the Lowman Plant site was the availability of lower cost barge transportation via the Black Warrior-Tombigbee Waterway. The lower cost transportation resulted in lower cost for electrical power for AEC member-consumers.

Over 1.1 million tons of coal were shipped to the Lowman Plant in 1988 to generate the electrical energy to meet the needs of its members. Projected increases into the mid 1990's are predicted. Coal can be received by rail as well as barge at the Lowman Plant. However 74% of the coal was moved to the plant via barge in 1988 because barge transporation is considerably less expensive.

A future generating site on the Black Warrior-Tombigbee Waterway has been purhased by AEC. This site is approximately 50 miles north of the Lowman Plant. One of the major factors in the selection of this site was the availability of water transportation. AEC is anticipating installing new base load generation on this site in the mid to late 1990's.

AEC's 1988 fuel cost was approximately $43.2 million of which $6.4 million was transportation cost. The $43.2 million

represented 30% of AEC's operating cost in 1988 with transportation being 4%. With fuel and transportation expense making up such a large percent of AEC's operating cost, any change in this area has a significant affect on the cost of electrical energy to its members.

The Corps of Engineers' budget request of $12.3 million for operation and maintenance funds for the Black Warrior-Tombigbee Waterway and the $25 million in construction funds for the replacement of the Oliver Lock has AEC's full support. AEC also requests "additional capability" funds sufficient to support the Corps continuation of the on-going channel efficiency work on the Black Warrior-Tombigbee Waterway and Corps' budget request for operation, maintenance and construction funds to continue the deepening project at Mobile Harbor.

STATEMENT OF DIANE DEATHERAGE, OPERATIONS COORDINATOR, HUNT REFINING CO.

As a concerned user of the Warrior-Tombigbee Waterway, I would like to state my reasons for supporting this waterway.

Hunt Refining Company is a refinery that produces such products as all grades of gasoline, several types of asphalts, fuel oils and coke. We receive approximately 21,000 tons of crude oil per month and approximately 20,000 vacuum bottoms by barge. We, in turn, barge out approximately 20,000 tons of crackerfeed a month. The above tonnage represents millions of dollars in revenue. Our dock facilities, which were first built in 1946, are located on the Black Warrior River, near the Oliver Lock and Dam. We have now completed an MTBE line and an asphalt loading line that are being utilized for the first time.

One crucial reason for us needing the waterway is that we make a product called "crackerfeed", named so because it is used in catalytic crackers. The only way we have of delivering this product is by the waterways. Fortunately, the refineries that we ship to are all over the intercoastal waterway.

With the opening of the Tennessee-Tombigbee Waterway, we anticipate the market in the North to open. We already have prospects to move an additional 100,000 tons/year to the Northern U.S. This gives us an optimistic view of other job possibilities.

We also receive crude oil from international freighters; first offloaded in Mobile into storage tanks, and then barged to our refinery.

In regard to the Port of Mobile, we would like to emphasize the draft limitations there and hope we can continue to have funding to allow us to offload out international freighters and move them in and out of Mobile in an economical and safe manner.

We would like to indicate that we support the Corp's budget request for $12.3 million in BWT Operations and Maintenance funds and the $25 million in construction funds on the Oliver Lock. But we would like to request "additional capability" funds sufficient to support continuation of the on-going channel efficiency.

Thank you.

STATEMENT OF JIM WALTER RESOURCES, INC.

I would like to thank you for the opportunity to make a statement to your Subcommittee. Please accept this letter as my statement.

The Mining Division of Jim Walter Resources, Inc. mines over 9 million clean tons of coal per year. Of that amount, nearly 60% of our production is exported. Approximately half of our export production travels down the Warrior River and all of our export production goes through the Port of Mobile. Our payroll for 3,199 employees last year was in excess of $116,000,000 and taxes withheld and/or paid were in excess of $40,000,000. It is obvious from these facts and figures that this Company relies heavily on our waterways and port facilities and that they are of the utmost importance to this Company, its employees and the economy of the State of Alabama.

I strongly support the Corps' of Engineers budget request for at least $12.3 Million in Operations & Maintenance funds and $25 Million in construction funds for the Black Warrior-Tombigbee and Oliver Lock. Our waterways and port facilities provide economic prosperity to Alabama that is worthy of your support. Further, I support the statements and testimony to be given by Mr. Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association. I believe that the value of improved efficiency and reliability of the Warrior-Tombigbee Waterway and Port of Mobile cannot and must not be underestimated.

Consequently, I urge you to consider increasing the proposed appropriation for Warrior-Tombigbee Waterway operations and maintenance. The amount currently proposed is inadequate to allow additional capability for ongoing channel deficiency corrections. An appropriation at this level threatens both the efficiency and reliability of our waterways.

The world coal business is at its most competitive level in history. News of any problems, especially transportation and delivery problems, is quickly spread by other coal producers around the world to the buyers to discourage purchases here. A blemish on our delivery record can have devastating, long-term effects from which we might never fully recover. Buyers lost today may never return tomorrow.

Again, thank you for this opportunity to give my comments on this very important matter.

LETTER FROM DAVID M. RATCLIFFE, VICE PRESIDENT, FUEL SERVICES, SOUTHERN COMPANY SERVICE, INC.

February 28, 1989

Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy & Water Development
United States Senate
Washington DC 20510

Dear Senator Johnston:

On behalf of Alabama Power Company, Gulf Power Company, and Mississippi Power Company I am writing to convey our support for the Warrior-Tombigbee Development Association and its president in their efforts before your committee. Because of the importance of the Warrior-Tombigbee Waterway to local, national, and international trade, the Southern electric system joins with the Warrior-Tombigbee Development Association in an effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway.

For the past 25 years Alabama Power Company, Gulf Power Company, and Mississippi Power Company have used the Warrior-Tombigbee to transport coal to their respective electrical generating plants at Demopolis, Alabama; Mobile, Alabama; Pensacola, Florida; Panama City, Florida; Sneads, Florida; and Biloxi, Mississippi. In 1988 more than 5 million tons of coal were transported from points along the Warrior-Tombigbee Waterway for these three utilities. We continue to receive tonnage off the Warrior-Tombigbee Waterway that has previously gone down the Mississippi River through New Orleans. The Warrior-Tombigbee Waterway allows these barges to move down the Warrior-Tombigbee River and through Mobile. The significant importance of this capability to our system was obvious during the record drought conditions of 1988. Had it not been for the Warrior-Tombigbee Waterway some of our Gulf Coast plants could have experienced severe fuel shortages. This trend is expected to continue in 1989. Additionally, the Port of Mobile is the hub of the Central Gulf Coast and the continued development of its facilities and support services is critical to the economy of the tri-state area served by the Southern electric system.

Alabama Power Company, Gulf Power Company, and Mississippi Power Company utilize water transportation because of the economic advantage to our millions of customers. Any expenditures for maintenance or upgrading which improve the efficiency and reliability of the waterway will have a positive impact on our customers. At the same time, higher cost resulting from inefficiency or the unreliability of the Warrior-Tombigbee Waterway will have a direct and adverse effect upon our customers.

It is imperative that there be a continuous program for maintenance and upgrading of the Warrior-Tombigbee Waterway channels and locks. We support the Corps' budget request for $12.3 million in Operations and Maintenance funds for the Black Warrior-Tombigbee River as a "bare bones" request. It is essential that this work be funded at this level. Additionally, the proposed $25 million budget for the continued work on Oliver Lock will eliminate a dangerous and costly bottleneck in the waterway system. To insure that the ongoing channel efficiency work is not delayed, we also request that additional funds be provided to support this effort. The Corps' budget request for funds for the continuation of the deepening project at Mobile

Harbor is a necessary part of the economic success in this area and has our complete support.

Adequate funding of programs required to maintain the efficiency and reliability of our nation's waterways is critical to its superior economic health and welfare. I strongly urge and solicit your support.

Sincerely,

David M. Ratcliffe
Vice President, Fuel Services

LETTER FROM NORMAN S. IVEY, VICE PRESIDENT, AMERICAN COMMERCIAL BARGE LINE CO.

March 17, 1989

Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy & Eater
Development
United States Senate
Washington, D.C. 20510

Dear Mr. Johnston;

On behalf of American Commercial Barge Lines Company, I would like to express our continued support of the Warrior-Tombigbee Waterway and to the funding of this project during FY'90. As active members of the Warrior-Tombigbee Development Association, we at A.C.B.L. wholeheartedly endorse the endeavors of the Association and the testimony of its President Offa, S. Nichols, Jr.

The inland waterway system of the United States is vital to the continued prosperity of our nation's economy. Inland river transportation is by far the most economical means of delivering the basic raw materials of American life.

The importance of the Warrior-Tombigbee Waterway was clearly demonstrated during the severe drought conditions during the summer and fall of 1988. River traffic virtually came to a standstill on the lower Mississippi River. By rerouting our tows to the Warrior-Tombigbee Waterway we were able to continue on-time, low cost delivery to our customers. This in turn kept factories, power plants in operation and prevented the possible loss of many jobs.

Approved funding for construction and maintenance of the Warrior-Tombigbee Waterway is imperative if this system is to realize its full potential as a dependable and cost efficient means of transporting our nation's agricultural and idustrial commodities.

In reference to the Corps of Engineers funding for 1990, we support the proposed $12.3 million for BWT Operations and Maintenance. However, we share the opinion that substanial "additional Capability" funds must be provided to insure the continuation of channel deficiency correction programs. Efforts to reduce shoaling and improve dredging disposal must be continued in order to improve efficiencey and reliability of the navigational channel.

We also support and urge the approval of the $25. million in construction funding. The replacement of the Oliver Lock and Dam and the deepending of the Mobile Harbor will greatly enhance the future of this entire region.

Thank you for the opportunity to comment on this important matter of national concern. We believe that tax dollars spent on these projects will improve the economic health of our country and raise our competitive standing in today's world markets.

STATEMENT OF R.A. BURK, MANAGER-EXPORT AND MARINE SERVICES, SCOTT PAPER CO.

Scott Paper Company appreciates the opportunity to submit a statement on our use of the Warrior-Tombigbee Rivers system. Water transportation of raw materials is of great importance to our Company and will be even more so in the future. Decisions of this Committee will, therefore, be very important to our Company's future operation, profitability, and employee work force. Failure to provide for dredging and other projects on the Warrior-Tombigbee Rivers system could increase our Company's operating costs to the detriment of the economy of Alabama and its citizens.

Scott Paper Company in Alabama manufactures lumber, pulp and a wide variety of paper products which are shipped to markets throughout the United States. The payroll for our 4,000 employees in the Mobile Alabama area is $120 million annually. Scott's operation in the Mobile area contributes over $1 million per day to the economy through payroll, taxes, and purchase of pulpwood and supplies.

Water transportation is used in Scott's Alabama operation to move raw material - pulpwood and logs - to manufacturing plants and woodchips and logs to our port facility for export.

We have used water transportation of wood raw materials on the Warrior-Tombigbee Rivers system for a number of years and are currently upgrading and enlarging our water transportation capabilities. Our $70 million dollar investment in 1982-83 has resulted in lower operating costs, which, in turn, has improved the competitiveness of our Alabama operations. We are currently barging approximately 2,000,000 tons of wood on the Warrior-Tombigbee Rivers system to our Mobile, Alabama manufacturing plants. The $70 million investment included modernization of our Hooks Lake Bargeyard and riverbank woodyards and the Mobile Woodyard.

We are continuing to expand our operation and now operate 16 towboats and 150 barges. Sixty percent of our raw material is being delivered on the Warrior-Tombigbee Rivers system. Since last year we have opened a barge loading facility in the Mobile Harbor and are shipping wood chips to this port from the Pickensville Port on the Tenn-Tom.

With this additional investment in new water transportation facilities, it is obvious that a well-maintained Warrior-Tombigbee Rivers system is critical to our Company's future. Failure of the U. S. Army Corps of Engineers to dredge and carry out other projects on the Warrior-Tombigbee Rivers system could result in higher transportation costs and negative economic pressures on the Company, the economy of Alabama, and the 4,000 Scott employees.

We urge the Committee to provide adequate funding for the Warrior-Tombigbee Rivers system and Mobile, Alabama harbor.

STATEMENT OF WALTER A. UNDERWOOD

This statement is presented on behalf of the over 3,000 business members of the Mobile Area Chamber of Commerce in support of the continued development of the Warrior-Tombigbee Waterway system, and the desperate need to increase the funding for the United States Army Corps of Engineers.

The Port of Mobile, one of the top 10 ports in the United States based on tonnage handled (export/import) is dependent on the extensive Alabama Waterway System. These waterways, including the Warrior-Tombigbee system, play a vital role in the movements of both domestic and international commerce. Over the years as the records will confirm, the Warrior-Tombigbee system has grown annually in the amount of tonnage handled, primarily bulk materials, including but not limited to coal, ores, petroleum products and other materials. The export of some of these commodities has assisted greatly in our balance of payments which continues to be a growing problem for our nation.

Based upon the vital role of this major waterway system, we respectfully submit that the operation and maintenance budget for the United States Army Corps of Engineers FY 1990 is insufficient for the proper development of the waterway and request that consideration be given by your committee to increase the funding to meet the Corps of Engineers capability on this and other projects.

We further respectfully request that this statement be incorporated and made part of the record.

STATEMENT OF EARL B. PARSONS, JR., GULF POWER CO.

Gulf Power Company is an investor-owned electric utility and a member of The Southern Company; we serve 280,686 customers in Northwest Florida. Our company utilizes coal for over 99 percent of its total generation requirements within Florida and consumes approximately 3.4 million tons per year for that purpose. Over 90 percent of our coal deliveries in Florida are dependent upon waterway transportation.

In 1988, Gulf Power moved approximately 870,000 tons of coal on both the Tennessee-Tombigbee and the Warrior-Tombigbee Waterways or through the Port of Mobile. This tonnage was greater than normal due to the drought caused low water on the Mississippi-Ohio River system. The diversion of coal traffic to the Tenn-Tom reinforces its importance to us. The use of the Tenn-Tom enabled Gulf Power to receive midwestern coal with very little delay.

As you can see from Gulf's dependence on the Tennessee-Tombigbee and Warrior-Tombigbee Waterways and the Port of Mobile, we wholeheartedly support the need for adequate funding to properly maintain and improve operations. It is imperative that Gulf continue to receive waterborne coal shipments in order to provide continued reliable electric service at the most economical cost to our customers. We are also concerned about the future industrial growth in our service area and must be certain that adequate fuel supplies can be transported to our generating plants.

In summary, we are in full support of the efforts of the Warrior-Tombigbee Development Association to provide

efficient and reliable waterway systems for coal delivery. We urge you to approve the Corps' O&M Budget request to provide adequate funds to maintain the Warrior-Tombigbee Waterway and the Mobile Harbor. In fact, we would urge you to approve more than the proposed $12.3 million which will only provide bare bones operation tasks. Also, the $25 million funding for continuation of construction at Oliver Lock is a very important part of the Corps' budget request and must be approved.

We feel that it is not only in Gulf Power's interest to support this worthy endeavor, but also in the best interest of the customers of our service area and the nation to improve our capabilities to transport coal and other commodities from points of origin to market places via the Warrior-Tombigbee Waterway and the Port of Mobile.

LETTER FROM TIM PARKER, JR., PRESIDENT, PARKER TOWING CO., INC.

February 21, 1989

Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy & Water Development
United States Senate
Washington, DC 20510

Honorable Mr. Johnston:

My name is Tim Parker, Jr. and I am President of Parker Towing Company. I emphatically endorse and support the testimony of Colonel Offa Nichols, President of the Warrior-Tombigbee Development Association. I join with him and other members of the Warrior-Tombigbee Development Association in efforts to improve the efficiency and reliability of the Warrior-Tombigbee Waterway.

The Warrior-Tombigbee Waterway and the Port of Mobile are not only important to my Company and the industries we serve, but it plays a significant part in the economic stability and well being of the State of Alabama.

A substantial majority of the coal moved in the State of Alabama and exported through the Port of Mobile is transported on the Warrior-Tombigbee Waterway. At any time of the day, on any given day, barge load quantities of various products such as salt, steel and iron, coke, scrap, oil and chemical products, as well as agricultural products are shipped via the Warrior-Tombigbee Waterway.

In general, the spectrum of products that move daily along the Warrior-Tombigbee Waterway readily points to the obvious and widespread economic impact that the Warrior-Tombigbee Waterway has on business in Alabama.

Nor, should we forget the role the Warrior-Tombigbee played in the drought situation that occurrred with the Mississippi River this past summer. Without a well maintained Warrior-Tombigbee Waterway, the drought situation would have been even more devastating for many shippers and receivers.

As a member of the Warrior-Tombigbee Development Association, I wholeheartedly support the U. S. Corps of Engineers Operations and Maintenance budget (O & M) request and their Construction Budget request for the Black Warrior-Tombigbee, Oliver Lock and Mobile Harbor. I respectfully request that additional capabililty funds should be readily available to insure the continuation of the ongoing channel improvement program.

Proper and sufficient funding of the O & M channel improvement and construction will lead to a competitive barge transportation industry for Alabama and Alabama shippers. Anything that we can do to make these Alabama shippers more competitive will lead to increased activity with our region's industry and along with increased industry activity, employment will surely increase as well.

Sincerely,

Tim Parker, Jr.
President

STATEMENT OF T. KEITH KING, PRESIDENT AND CHIEF EXECUTIVE OFFICER, DAVID VOLKERT & ASSOCIATES, INC.

David Volkert & Associates, Inc. (DV&A) supports the FY90 Corps of Engineers' funding for the Warrior-Tombigbee and the Port of Mobile.

DV&A is one of the largest design engineering/architectural/planning firms in the State of Alabama, with Alabama offices in Mobile and Birmingham. We are aware of the importance of the Warrior-Tombigbee Waterway, not only to our company, which employs over 200 people, but to Alabama and the nation as a whole. Since Mobile's largest industry is its port, the further development of this Waterway would not only add to Mobile's commerce and industry, fueling monies into its economy and providing needed jobs for its people, but would also improve the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile. This improved capability and reliability would allow for lower operating costs, higher energy efficiency, and added importance to local, national and international trade. With the shipments of coal, iron ore, farm products, and related products expected to continue to rise, the Warrior-Tombigbee is increasingly important to maintain the serviceability of our waterway system.

Confidence in the Waterway and its efficiency and modernization are important in bringing much needed new industry to Mobile. Lower operating costs to users of the Waterway and Port are essential to obtain a reasonable balance of the international export market allowing the U.S. to reduce our trade deficit. Increases in shipping and commerce result in opportunities for many companies, similar to DV&A, to obtain business and offer meaningful employment to citizens of the State of Alabama and other parts of the U.S.

DV&A supports the Corps of Engineers' budget request for $12.3 million in Operations and Maintenance funds and $25 million in construction funds for the Black Warrior-Tombigbee and Oliver Lock. We feel, however, that additional funds, sufficient to support the continuation of the on-going channel efficiency work, should also be appropriated.

DV&A also supports the Corps of Engineers' budget request for O&M and construction funds to continue the deepening project at Mobile Harbor, which will mean more growth and revenue for the Port of Mobile and the State of Alabama.

We appreciate this opportunity to express to you our support of Col. Nichols, President of the Warrior-Tombigbee Development Association, and the testimony to be given by him before the Appropriations Committees of the Senate and House. We are proud to join in the collective effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile.

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LETTER FROM JAMES C. LEE, JR., BUFFALO ROCK CO.

February 21, 1989

Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy & Water
Development
United States Senate
Washington, D. C. 20510

Dear Sir:

Our company operates throughout the State of Alabama and in Florida and Georgia. Two of our operations are at Birmingham and Mobile. Consequently, the Warrior-Tombigbee Waterway is most important, not only to our business, but to our areas.

We certainly support the Corps' budget request for $12.3-million in O&M funds and $25-million in construction funds for the Black Warrior-Tombigbee and Oliver Lock.

It is important that additional capability funds be sufficient to support the continuation on-going efficiency work. Mobile and Birmingham are enlarging their economic development programs. Therefore, the Waterway Development takes on even more importance. The Waterway is a strong force in keeping various transportation costs to realistic levels.

Your help and support with the continuing work on the Waterway will be appreciated by the entire area.

Yours truly,

James C. Lee, Jr.

STATEMENT OF DONALD S. LUNDY, EXECUTIVE VICE PRESIDENT, SOUTHTRUST BANK OF ALABAMA

Year after year my organization has felt it important to contact appropriate Congressional leadership on matters pertaining to Corps' of Engineer funding with particular emphasis on funds earmarked for the continued development of the Warrior-Tombigbee Waterway and Port of Mobile. We, along with virtually all Alabamians, view the waterway and Port of Mobile as critical transportation facilities not only to Alabama but to much of the Central and Eastern United States.

There is virtually irreproachable evidence that the Warrior-Tombigbee Waterway represents a monument to human intervention in finding natural ways to provide for their needs in a lower cost, energy efficient manner. We

also have a project that serves the collective benefit of Federal, State, National and International interests. As a representative of a commercial bank, I can assure you the prosperity of the Waterway and the Port of Mobile enjoys a high profile with us as indicative of the future growth of the Alabama and American economy.

This concern we have is amplified each year as we make our appeal to Congress for funds to keep this magnificent project on the move. And, while the Congress obviously shares our enthusiasm for both projects through their generous allocations, we do usually find portions of each year's considerations lacking in areas we feel are very important. Fiscal year 1990 is no exception. We are especially worried that the 12.3 million proposed for Operations and Maintenance is inadequate and could curtail several deficiency correction projects that are already underway. As is the case with many of the hard decisions the Congress must make, we have here a situation that does not have immediate consequences but for the future, under-funding this work will impact the efficiency and reliability of the navigation channel.

I respectfully request that you and the members of the Subcommittee on Energy and Water Development consider the investment in the Warrior-Tombigbee as one of those rare Federal expenditures that benefits everyone and will continue to lend your financial support in adequate amounts to insure its enormous contribution to the American economy.

STATEMENT OF JEROME DRUMMOND, DIRECTOR OF PORT OPERATIONS, DRUMMOND COAL SALES, INC.

The following is a statement in support of improving the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile.

Drummond Coal Company was founded in 1935 by Mr. Heman Drummond who developed his first mine underground near Sipsey, Alabama. It was a drift mine, angling into a hillside from which men dug and mules hauled the bituminous Appalachian coal. Many of Mr. Drummond's customers were local people who needed coal for home heat. As his sons grew up, they joined him and the family opened their first surface mine using small diesel shovels. Half a century has passed since Mr. Drummond produced his first ton of coal.

Today, Alabama is a major coal producing and exporting state. Drummond Coal Company is the largest surface coal producer, one of the largest coal exporters in the southeastern United States, and one of the top twenty non-captive bituminous coal producers in the nations. Drummond serves metallurgial, utility and specialty coal customers on four continents from mines in six counties in north central Alabama. Drummond Coal Company alone presently employs in excess of 4,500 people with an annual payroll of approximately $120,000,000.

About 90% of the state's coal production, including most of Drummond's comes from the Warrior Field located in north central Alabama. The Warrior Field or Warrior Basin as it is also known, is a basin-like geological structure covering more than 3,500 square miles and underlying parts of Winston, Marion, Fayette, Tuscaloosa, Cullman, Blount, Jefferson and all of Walker County. The field is cut

through by the Warrior River system which has led to development of mines using water transport.

Alabama's system of riverways offers water transport of national and international destinations via the McDuffie Coal Terminal at the year-round Port of Mobile on Alabama's Gulf Coast. Barging in Alabama is a particularly good way to move coal because of the extent of Alabama's waterways and because of the coal handling facilities available.

Drummond ships this coal from five different coal loading facilities located at various points on the Warrior River system, two of which are company owned and operated. Drummond owns and operates a barge loading facility located at milepost 354 on the Warrior River in conjunction with its Kellerman mining operation. This barge loading facility handles about 1,400,000 tons of production at the Kellerman Mine and 2,000,000 tons of production for the Jim Walter Corporation. Another company owned barge loading facility is located at milepost 401.5 on the Locust Fork portion of the Warrior River in conjunction with Drummond's Short Creek operation. This barge loading facility has the potential to handle approximately 1,000,000 tons per year at Port Birmingham which is located at milepost 399 on the Warrior River.

Obviously, reliance upon Alabama's efficient system of waterways has been a very integral part of Drummond Coal Company's planning and operations to date. Availability of an economical and efficient mode of transportation is important to any industry in getting the product to market; however, because of the national and international markets for coal, efficient transportation modes are even more critically important to the coal industry.

We, at Drummond, urge your committees to support the proposed O & M money of $12.3 million for the BWT but feel that this will be at a level that could be dangerously low to carry on the maintenance programs that we need so badly.

We are pleased that $25 million has been proposed to continuing the new Oliver Lock construction and that a total of $25 million is needed, of which one-half is paid by the shippers (such as Drummond Coal Company) to the barge carriers for the Inland Waterway Trust Fund.

We also support continuing O & M and construction funds to continue deepening the harbor at the Port of Mobile.

By transporting its high quality coal product by an available and efficient waterway system, Drummond has been able to compete with other coal exporting nations in a successful manner and has contributed to reducing the current national trade deficit.

Drummond Coal Company is a member of the Warrior-Tombigbee Development Association. We strongly support the testimony given today by Mr. Offa S. Nichols, Jr., President of the Association, and heartily endorse the collective effort of the Association to improve the efficiency and reliability of the Warrior-Tombigbee Waterway. Traffic on the waterway presently represents only a small percentage of the river's ultimate capacity; given the needed improvements to the Oliver Lock and a continued commitment to a federally constructed and

maintained inland waterway system are granted. Certainly, the federal inventment in the Warrior-Tombigbee River System has paid dividends many times over with the improved economic development in the area which the Warrior-Tombigbee River System serves.

STATEMENT OF NICHOLAS J. BARCHIE, JR., PRESIDENT, WARRIOR & GULF NAVIGATION CO.

I am Nicholas J. Barchie, Jr., President of Warrior & Gulf Navigation Company. Our company is a member of the Warrior-Tombigbee Development Association and thereby supports the testimony to be presented by Mr. Offa Nichols as President of the Association. In the following paragraphs, we wish to address the extreme importance the Warrior-Tombigbee Waterway and the Port of Mobile plays in the success of our company.

Warrior & Gulf Navigation joins in a collective effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway due to lower costs, energy efficiency, and the major importance it has on domestic and international trade; e.g. low transportation costs via water is imperative to the coal producers, steel producers; farmers and paper companies in Alabama to maintain competitive prices in the world market in the movement of their coal, grain, steel and various forest products.

Warrior & Gulf is a barge line located in Chickasaw, Alabama and owns 27 towboats and 323 barges making us one of the larger water carriers operating on the BWT system. With our current equipment ownership our annual capacity is approximately 10,000,000 tons. Additionally, we operate one barge drydock, a coal handling and iron ore facility at Port Birmingham; one barge drydock and one boat drydock at our Chickasaw facilities; and, a wholly owned subsidiary of Warrior & Gulf, Mobile River Terminal, is another bulk terminal handling various cargoes from and to ocean-going vessels in the Port of Mobile. Our total employment is approximately 300 people.

Warrior & Gulf provides barge transportation on the BWT System for coal (domestic and export), iron ore, iron and steel products (export, import and domestic), scrap, gypsum, wood chips, and many other types of bulk commodities. With the opening of the new steel mill at Tuscaloosa, along with the pipe mill and the new continuous caster at Fairfield, Alabama, the projected increases in coal consumption during the next few years we contemplate increases to materialize in our steel, iron ore and coal shipments; thereby, requiring an efficient and properly maintained waterway along with the Port of Mobile most important to WGN in our continuing efforts to accommodate the increased demand. Moreover, we must not lose sight of the fact, for continued commitments to private investment; and, other economic development to continue along this magnificent waterway depends largely on our ensuring a viable and low cost transportation on this waterway. The continued efficiency of this waterway is critical to the viability of these new industries.

Warrior & Gulf began using the Warrior-Tombigbee Waterway in 1940. During 1985, our capital investment for new equipment approximated $2,000,000; and in 1986 another $2,100,000; and in 1988 approximately $9,000,000; in order for our company to continue providing economic water transportation to its customers along this waterway.

With regard to construction funding the budget proposes $25 million to continue the new Oliver Lock. Approval of this amount is critical to the timely and efficient contract placement

to remove this dangerous and costly bottleneck, and, to support the Corps' proposed schedule to replace this antiquated lock.

Historically, our shoaling problem varies greatly from season to season dependent upon the length of our high water season (December - April) and the amount of flooding that occurs, e.g. during the season where the river stages run 60 feet or more for prolonged periods causes the shoaling to become more severe. Accordingly, the proposed amount for the Warrior-Tombigbee System's Operations & Maintenance is $12.3 million. The 5 year average is $12.5 million, which is somewhat lower than the longer term average due to the absence of major flooding and shoaling over the past couple of years. At best, the $12.3 million would probably support the bare bones operations tasks; however, it does not allow for the continuation of the on-going channel deficiency correction program. For example, actions that have been underway for several years to improve dredging disposal and reduce shoaling would have to be discontinued or terminated. Continuation of these programs are very critical to the efficiency and reliability of the navigation channel and to the reduction of future maintenance costs. Simply stated, we need the "additional capability" funding as the Corps' budget request is presently inadequate and needs to be increased.

We might add, although we have not experienced our traditional high water season for the past four or five years, the '88-'89 season has proved to be a repeat of times past. Accordingly, we can anticipate the shoaling on the BWT System this summer to become a major problem to navigation and require more dredging to clear up bottlenecks than have been experienced over the last four to five years.

In closing, we wish to confirm our support for the Corps'budget request for $12.3 million in O&M for the Black Warrior-Tombigbee System and $25 million for construction funds to continue the new Oliver Lock; however, we strongly suggest additional funds be made available to ensure both an adequate O&M program and continuation of the channel improvement work on the BWT. Additionally, we support the Corps' budget for O&M and construction funds to continue the deepening project at Mobile Harbor.

We respectfully request your continued support and assistance as your subcommittee considers appropriation of funds for these very important issues concerning the Black Warrior-Tombigbee System and Mobile Harbor.

STATEMENT OF MICHAEL P. HARBIN, SOUTH CENTRAL BELL

As manager of Economic Development for South Central Bell in Alabama, I have a deep heart-felt interest in the economic growth of the State of Alabama. This interest not only lies in the continuing growth of the communication infrastructure of the State, but all facets of infrastructure that will lead to a better quality of life in Alabama which include the Warrior-Tombigee Waterway and the Port of Mobile projects.

As a corporate leader within the state, South Central Bell seeks to have a positive input on our environment and the communities we serve. We feel these two projects will also have a positive impact in our state and communities in the way of better education and employment opportunity. The continuous efforts of the Warrior-Tombigbee Development Association and its President, Offa Nichols, Jr., will help insure that these two projects improve upon our existing quality of life and will also contribute to energy conservation and international trade within the United States.

I would also like to lend my full support to the Corps' of Engineers request for adequate funding to continue work already begun on the Mobile Harbor project and for the general operations and maintenance programs. These will reduce cost and increase channel efficiency in the future.

I appreciate your taking my endorsement of the project into consideration. I am sure the Association can count on your support as well.

STATEMENT OF LEON M. TORBERT, JR., DRAVO BASIC MATERIALS CO., INC.

The Warrior-Tombigbee Waterway along with the other waterways of the State of Alabama are invaluable links to a successful Port of Mobile and the economic growth in South Alabama. Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, will present testimony stressing the need for maintaining and enhancing the efficiency and reliability of the Warrior-Tombigbee System as well as the importance of low-cost, energy efficient water transportation to local, national and international trade. We fully support and endorse his testimony.

Dravo Basic Materials Company, Inc. is one of the leading producers of construction raw materials and aggregates on the Gulf Coast. We rely extensively on the waterways of Alabama, Florida, Louisiana, Mississippi and Texas for production and delivery of our products. In 1988 we transported via Alabama waterways in excess of 1,250,000 tons of sand and gravel. We also transported over 200,000 tons of limestone as well as significant quantities of other products. Our projections for 1989 are:

Sand and Gravel	1,350,000
Other	500,000

Dravo Basic Materials Company, Inc. operates a fleet of 23 boats, 85 barges and 7 dredges. We maintain a large terminal and handling facility on McDuffie Island in Mobile, Alabama in addition to numerous support facilities throughout South Alabama and the Gulf Coast.

The maintenance of authorized project dimensions is essential for the efficient, orderly production and delivery of materials throughout the waterway system. In order to provide this capability, it is imperative that the Army Corps of Engineers be provided with the appropriations necessary to continue the maintenance and development of the Warrior-Tombigbee Waterway System as requested in the fiscal year 1990 budget.

It is also requested that additional funds be provided to insure that the Corps has the capability and flexibility necessary to maintain the utilization of the Waterway System and Mobile Harbor. Additionally, the continued provision for funds to replace the outmoded Oliver Lock and Bam should not be overlooked.

We sincerely appreciate the Committee's faith in the future of the State of Alabama and welcome its continued support of these vital projects.

LETTER FROM ALAN R. BARTON, PRESIDENT, MISSISSIPPI POWER CO.

March 6, 1989

Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
United States Senate
Washington, DC 20515

Dear Senator Johnston:

Colonel Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, is appearing before your Subcommittee in support of the Waterway and the Corps of Engineers' budget request relating to the project. As President of Mississippi Power Company, a user of the Waterway, I am writing in support of Colonel Nichols' testimony. I am also requesting consideration be given to increasing the proposed funding level to ensure both an adequate operation and maintenance program, and continuation of the channel efficiency work for the BWT.

The cost of fuel is the single largest operating expense Mississippi Power Company faces. Coal mined in the region served by the Warrior-Tombigbee Waterway provides us with a reliable, competitive source of fuel. Any deterioration of the reliability of the shipping along the Waterway would force the Company to higher cost suppliers.

Furthermore, the Warrior-Tombigbee is one of only two alternative waterways by which coal is delivered to our generating units. Should there be disruptions in the coal deliveries that normally come down the Mississippi River, the Warrior-Tombigbee would provide the only viable waterborne alternative for ensuring that adequate supplies of coal are delivered to Mississippi Power Company in a cost effective manner. This past summer, 276,000 tons of coal shipped to Mississippi Power Company were diverted to the Warrior-Tombigbee Waterway due to low water levels on the Mississippi River caused by the drought.

The Warrior-Tombigbee Waterway has played an important role since 1976 in the delivery of coal to Mississippi Power Company's facilities. In 1988, approximately 853,000 tons, or 18 percent, of our coal purchases were shipped over this Waterway.

Mississippi Power Company operates in Southeast Mississippi and provides electric service to over 174,000 customers. Our customers include several military installations, federal government agencies, and prime defense contractors.

Any deterioration in the ability to ship over this waterway, or an increase in our cost due to increased delays, would not only adversely affect all of these customers including federal installations, but would also impede future economic development in Southeast Mississippi.

Your favorable consideration of the testimony on behalf of the Warrior-Tombigbee Development Association will be greatly appreciated.

Sincerely,

STATEMENT OF SHELDON L. MORGAN, FIRST ALABAMA BANK

The Port of Mobile and the inland waterways serving it are major factors in the economy of Alabama and the U. S. Gulf Coast. The Warrior-Tombigbee Waterway is a vital factor in this respect. It serves the manufacturing, mining and the agricultural areas and industrial production facilities in western Alabama. The waterway has served as an economic stimulant for one hundred years, having been periodically improved until today, and is a modern system with one major exception, the Oliver Lock and Dam, which needs replacing.

This waterway is currently handling most of the coal moving out of Mobile for export. Many basic materials move on this system and it is important that funds for an adequate Operations and Maintenance program be appropriated for the BWT. The $12.3 million budget item requested by the Corps of Engineers is not adequate, based on past history and continuing projects holding over from FY'89. This should be carefully evaluated.

The construction for replacement of Oliver Lock has now begun, and the Corps' request for $25 million for this construction program in the FY'90 budget is important so that this continuing process not be interrupted.

The amount we are requesting is a valid investment by the Federal Government, and will continue to be matched many times over by local investment.

LETTER FROM ALVIN P. DuPONT, MAYOR, CITY OF TUSCALOOSA

March 7, 1989

The Honorable J. Bennet Johnston
Chairman
Subcommittee on Energy & Water Development
United States Senate
Washington, D. C. 20510

Dear Senator Johnston:

As Mayor of Tuscaloosa, Alabama, I am writing to express my support of the budget request from the U.S. Army Corps of Engineers for $12.3 million in operations and maintenance funds and $25 million in construction funds for the Warrior-Tombigbee Waterway. Further, I am requesting additional capability funds to support the on-going channel efficiency work. Also, I am making known my support for continuation of the Mobile harbor deepening project.

The Warrior-Tombigbee Waterway plays a vital role in our local economy. It is a major transportation artery for coal and wood products - both of which are important local industries. The Waterway supports local barge companies which provide employment for numerous area citizens and support businesses.

If the U.S. is to effectively engage in international trade, we must utilize all resources which provide us with a competitive edge. Low-cost, energy efficient waterway transportation is one such resource. I look forward to your favorable support of the Corps' budget request and for additional capability funding.

Sincerely,

Alvin P. DuPont
Mayor

STATEMENT OF P.W. GREEN, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AMERICAN CAST IRON PIPE CO.

As President and Chief Executive Officer of American Cast Iron Pipe Company, I request your favorable approval of the request of the Corps of Engineers for Operations and Maintenance Funds for the Warrior-Tombigbee Waterway and the Port of Mobile. It is my feeling that the $12.3 million requested budget should be increased to provide for "additional capability" funds sufficient to support continuation of the on-going channel efficiency work. In addition, I fully support the $25 million requested budget to continue work on the new Oliver Lock. Finally, I support the Corps of Engineers budget request for Operations, Maintenance and Construction Funds to continue the deepening project at Mobile Harbor.

ACIPCO exports approximately 50,000 tons per year through the Port of Mobile. In previous years we have shipped substantial export pipe tonnage by barge on the Warrior-Tombigbee Waterway. We expect to do so again in the future. The Warrior-Tombigbee is also important because of raw steel that is imported to Tuscaloosa Steel Corporation (with whom we are in partnership) which is one of our major suppliers of steel skelp with which we manufacture a superior quality steel pipe for oil and gas pipeline service. Finally, we are currently using the waterway for movements of steel skelp from Tuscaloosa to Port Birmingham for subsequent movement by rail into our Birmingham plant. We expect to receive 3,000 tons of skelp in this manner within the next month.

It will be appreciated if the Subcommittee will afford Colonel Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, every consideration when he makes his presentation before your group in April.

It is my opinion that the Warrior-Tombigbee Waterway is a real asset to our country's economy as well as to our company and that every effort should be taken to allocate the necessary funding.

STATEMENT OF BRUCE A. WEINARD, PRESIDENT, CARGILL MARKETING CO., INC.

Cargill Marketing Co., Inc. is a Regional grain company operating country elevators in five Southern states. Two are barge loading facilities located on the Warrior-Tombigbee Waterway and directly impacted by the navigability of this system.

This system provides reliable, low cost transportation to the surrounding agricultural production area. Grain production including corn, soybeans and soft red wheat move into the export market through the Mobile Public Elevator.

We are interested in seeing this waterway maintained and upgraded and therefore ask you to accept and support the testimony of Mr. Offa S. Nichols, Jr., President of the Warrior Tombigbee Development Association. We ask your support for the Corps' budget request for $12.3 million dollars in Operation and Maintenance funding as well as the $25 million dollars

in construction funds for the Warrior-Tombigbee and Oliver Locks respectively.

'Additional capability funding' is also needed to support continuation of the on-going channel efficiency work. The maintenance and improvement of this system neatly ties into the progress being made on the Mobile Harbor Deepening Project. This project will have a very positive impact on water related economic growth for the area.

Thank you for your support of these projects and we look forward to the continued 'efficient use and growth of this inland waterway system'.

STATEMENT OF THE T.L. JAMES & COMPANY

T. L. James & Company, Inc. is a diversified construction company, based in Ruston, Louisiana. Our scope of operations includes sixteen hydraulic cutter-suction dredges and three hopper dredges. These dredges build and maintain the waterways of the Inland, Gulf and Atlantic Coast regions. You are well aware of our company and the importance to us of the Corps of Engineer's Civil Works Budget. The Warrior-Tombigbee and the Port of Mobile are important segments of our construction market. For this, and a variety other reasons relating to the general benefits of public works, we support the Warrior-Tombigbee Development Association and their efforts on behalf of these waterways.

The Army Corps of Engineers' Budget is an important barometer of the economic health of our company, as well as the national dredging industry. "O & M" funding on the Warrior-Tombigbee navigation system funds an important segment of our business. More importantly, the funding maintains an efficient navigation system that reduces the cost of the work we perform for the Corps, and the cost of water-borne commerce in this region.

I would like to focus on the fact that navigation and dredging interests are only two segments of the regional economy that are enhanced by "O & M" funding. Approximately 75% of the revenue from a dredging contract is funneled into the economy of the local community. An additional 10% of our revenue benefits the economy of our home port in Louisiana. Much of the labor employed on our equipment is provided from the local workforce of nearby communities. A payroll account is usually handled by a local bank. Local fuel and hardware suppliers receive approximately half of our revenues in the form of local purchases of those items. It is clear that "O & M" expenditures enhance the health of other commerce in the economy of the communities affected, as well as provide for more efficient and economical navigation.

The $12.3 million proposed in FY-90 for Black Warrior-Tombigbee O & M is less than the recent average expenditures of $12.5 million. The absence of major flooding and shoaling the past couple of years has "masked" the true cost of maintaining this navigation system. $12.3 million will support only a "bare-bones" maintenance program, and not allow continuation of the deficiency correction programs currently underway. Among the benefits of this program are improved availability of dredged material disposal locations and reduced shoaling. It is essential that "additional capability" funding be approved to supplement the "O & M" funding reductions.

A safe and reliable Warrior-Tombigbee transportation network is of paramount importance to the waterborne commerce on that network, as well

as the health of the regional economy in general. I hope I have clearly outlined for you, from our perspective, the importance to us of the efforts put forth by the Warrior-Tombigbee Development Association concerning the Army Corps of Engineers budget for fiscal year 1990.

STATEMENT OF WILLIAM H. HARRISON III, PH.D., PRESIDENT, TOW LINE BARGES, INC.

I would like to express my vehement support for funding of the Warrior-Tombigbee Waterway. Our company is a capable, efficient repair-yard which provides support for the many transportation activities which occur on this Waterway. In the past several years, we have been encouraged to see increasing use of the Warrior-Tombigbee Waterway, as well as increasing benefits to the Port of Mobile and the citizens of Mobile. This Waterway has provided our citizenry with jobs, as well as a renewed faith in the waterways transportation which is such a vital part of the American Heartland. Our company stands ready to continue growing along with the activities on this vital waterway.

While we support the Corps' of Engineers budget request of $12.3 million in Operations & Maintenance funds, we are highly concerned that this will not provide adequate funds for vital improvements which are needed to make the Warrior-Tombigbee Waterway attractive for increasing operations. We consider increased funds especially vital for the Warrior-Tombigbee Waterway during its infant years of establishing the viability of its usefulness. We would therefore like to request "additional capability" funds which can support the on-going efforts to improve the efficiency of our Waterway. If continued improvements to the Waterway are not provided, we are quite concerned that this will have a significantly negative impact upon the Port of Mobile and the Gulf Coast in general.

We sincerely appreciate the present budget proposal of $25 million to continue the new Oliver Lock, and we strongly support the appropriations of these funds to replace this bottleneck in our Waterway. We strongly support your continued efforts to ensure this vital funding.

As a member of the Warrior-Tombigbee Development Association, I strongly support the testimony of our President, Offa S. Nichols, Jr. He has provided insightful, accurate, and fair representation for the interests of the Waterway, and we have tremendous confidence that his testimony will continue to reveal the needs of our Waterway to present and future congresses.

We sincerely thank you for your support of these matters, and we feel this support will be of benefit to the Warrior-Tombigbee Waterway, the Port of Mobile, and American commerce in general.

ADDITIONAL PREPARED STATEMENT FOR THE RECORD

Senator DOMENICI. We also have a statement from the Tri Rivers Waterway Association which has been submitted for inclusion in the record.

[The statement follows:]

STATEMENT OF PHILLIP HORNSBY, PRESIDENT, TRI RIVERS WATERWAY DEVELOPMENT ASSOCIATION

Thank you, Chairman Johnston and members of the committee for this opportunity to present the needs of the Apalachicola-Chattahoochee-Flint Inland Waterway and River System as we view them.

I am Phillip Hornsby, of Iron City, Georgia, President of the Tri Rivers Waterway Development Association. The primary objectives of our association are the effective development, utilization and maintenance of the Apalachicola-Chattahoochee-Flint Inland Waterway and River System for commercial navigation.

The basic authority for the navigable waterway is the 1945 River and Harbor Act which called for a 9 by 100 foot navigation channel from Apalachicola, Florida on the Gulf Intracoastal Waterway to Phenix City, Alabama/Columbus, Georgia on the Chattahoochee River and Bainbridge, Georgia on the Flint River.

Our organization is, of course, interested in and supportive of flood control, hydroelectric power generation, water quality, water supply, drought management, recreation, and wildlife enhancement. Our perspective is focused on the equitable use of the system resources and services.

As we accomplish these objectives we are also strengthening the economic development base in Southeast Alabama, Southwest Georgia, and Northwest Florida. Accomplishing these worthy objectives and focusing on regional economic development has been the thrust of our association since it was founded in 1960.

We are here today to thank you for the funds you have provided for the continued operation and maintenance of the Apalachicola-Chattahoochee-Flint Inland Waterway and River System, and to urge funding of the request in the President's budget submitted to Congress for Fiscal Year 1990. This request of $4,936,000 is for the continued operation and maintenance of the ACF System.

We also request you appropriate funds requested in the President's budget for the operation and maintenance of four multipurpose dams on the ACF System, including:

Jim Woodruff Lock, Dam and Lake Seminole	$4,643,000
Buford Lock, Dam and Lake Sidney Lanier	$5,011,000
Walter F. George Lock, Dam and Lake	$6,379,000
West Point Dam and Lake	$4,029,000

There are six public ports along the ACF Waterway representing an investment of more than $15 million. Moreover, there are millions of additional dollars invested in private facilities and industrial operations.

The nations's waterways serve as a vital link in providing much of the transportation needs of manufacturers and farmers in shipping their products and commodities from region to region.

Though the regional drought persisted, over 847,000 tons of cargo reached destinations in 1988. It is estimated that had the drought not persisted such tonnage could have reached 1,500,000 tons. Tonnage moved on the system represents a savings in transportation costs of millions of dollars to industries and final destination customers in the ACF basin. Economic development factors show that cargo tonnage means several hundred jobs, and millions of dollars in personal income, and state and local taxes. This contribution to the regional economy is essential to the continued growth of the States of Alabama, Florida and Georgia.

The association's study, "Barging Options for moving Tri Rivers Forest Products to Northern Markets", has taken hold and expanded

to include strong consideration of foreign markets. Efforts are currently under way to explore every future consideration for marketing the plentiful ACF basin area forest products which can be shipped profitably on the system. February saw the first shipment of logs on the system in recent years. The future for forest products in the region looks bright. In addition, other commodity analysis is being considered as well. As you can see, we are encouraged,

Mr. Chairman, you and your fellow committee members have demonstrated your commitment to keep our nation's inland waterway systems as viable entities to the nation's economy. Through this sound commitment you have strengthened our nation's economy and the standard of living for many of our nation's citizens. The citizens living in the ACF basin area of Alabama, Florida and Georgia have benefited and are grateful for your support and foresight.

We are thankful for this commitment and for the knowledge that it will not waiver.

As you may be aware, some issues concerning river and reservoir water management priorities, purposes, and fees are being discussed at various Government levels. We ask that you weigh such considerations carefully. Above all, we ask that the Congress of the United States reaffirm the long term perspective that built the ACF Inland Waterway and River System. That concept, based on sound priorities and placed into law, best serves the broad interests of the basin area. The original purposes of navigation, maximum hydropower production, and flood control must be preserved to insure substantial cost savings for area residents.

In closing, I would like to again thank you for your continued leadership and diligence.

CLOSING REMARKS

Senator DOMENICI. Thank you very much.

Do any of you have anything further to say? If not, then thank you all. In closing I might just say to all of you that I haven't been on this particular subcommittee for very long, but some of you, and if not you, your predecessors, might remember me from the Senate Environment and Public Works Committee. I am both a good guy and a bad guy. I helped John Stennis with Tombigbee, but I was also the fellow that got the user fees enacted for your barges. So I am sure that, on the one hand there is a little bit of appreciation, and on the other hand there is a little bit of chagrin.

I might just tell you since you are our last witnesses that one of the real stories of my 17 years in the Senate thus far had to do with those user fees. I recall that we had a hearing early one morning, and a whole batch of your barge people came down to testify. You know that every President for about five back has wanted some kind of user fees, but we could not get them enacted. We were not at all sure that year that that would happen.

I thanked some barge man from your part of the country, and he was not very kind to me. He got up in the committee hearing and said, "What the hell does New Mexico have to do with us? It is none of your damn business what we do down there in our inland waterways. Why not go on home?"

Well, I am not one to take that kind of thing too lightly, nor do I get too serious about it; but somehow it just kind of rubbed me the wrong way. I said, "Well, I just have a sneaking hunch you will find out what I have to do with it in the next year or so."

So we did start user fees on the inland waterways, and I think probably it has worked out reasonably well.

I am pleased that the Tombigbee is completed. I guess we expected a lot more coal traffic when we did the studies. Am I right about that?

Mr. NICHOLS. We expected that we would be supplying coal to the world at the time, Senator, yes.

Senator DOMENICI. I have seen no current reports, but I assume it is being managed well, and there is still a chance over the long run that it will be economically beneficial to the country and to the region.

Mr. NICHOLS. Last year, of course, the Tenn-Tom was recognized as very, very valuable as an alternate route during the drought on the Mississippi River.

Senator DOMENICI. Yes; I am aware of that.

Mr. NICHOLS. But had we not had the drought on the Mississippi River, there is every reason to expect that the tonnage on the Tenn-Tom would have established a new yearly record as it has done each year that it has been in existence.

I do not know if you heard Mr. Bevill's comment, but he cites now that the Tenn-Tom has paid for itself twice, once most recently. Last year as an alternate route it saved thousands of jobs and millions of dollars. But he says also the day that it opened it paid for yourself because you go back and look at the rail rates of the major rail lines serving the midwest to the gulf coast for grains,

there was a 25 percent reduction made in the transportation rates. The savings were made. They just appeared in a different account.

We have that on our system. We have people that have good rail rates because the water is there for them. So it works out.

SUBCOMMITTEE RECESS

Senator DOMENICI. Thank you all very much. We stand in recess until 10 a.m. tomorrow.

[Whereupon, at 3:35 p.m., Tuesday, April 4, the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, April 5.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1990

WEDNESDAY, APRIL 5, 1989

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD–192, Dirksen Senate Office Building, Hon. Dennis DeConcini presiding.

Present: Senators Johnston, DeConcini, and Garn; also present: Senators Kerrey and Exon.

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator DECONCINI. The subcommittee will come to order. I want to thank the chairman and ranking member of the subcommittee for permitting me to chair today this hearing of the Energy and Water Development Subcommittee. It is very important to me for many reasons as we will see when the Central Arizona Project is before us.

I asked Congressman Jay Rhodes to join me today. He has been a leader in this effort for a long time, even before he came to Congress.

I want to welcome each and every one who is here today. We have a large number of witnesses that all want to be heard and we, therefore, in accordance with the notification that the committee has sent to each of you, ask you to use some self-restraint in your oral testimony. Your full statements will appear in the record, and we would ask that each of you summarize those.

This morning we will take 'testimony from Senator Kerrey and Senator Exon. I want the record to show that Senator Kerrey, a new member of the subcommittee from Nebraska, is present and we are pleased to have him here. I am advised that his senior colleague, Senator Exon, is on the way, but we will proceed with Senator Kerrey.

Senator.

I take that back. Senator Exon just walked in, and I am sure you would be more than happy to have your senior colleague lead off.

Senator Exon, we were just saying nice things about your colleague there, and we were going to let him go first.

Senator EXON. I am glad I came in.

Senator DECONCINI. We always defer to seniors.

Senator KERREY. I appreciate the opportunity to testify and would just take the opportunity since I have it briefly to introduce the senior Senator who you know very well. Senator Exon has been long involved in not only the development of natural resources, but the protection of natural resources as well, both of which, as you know, Senator, Senator Exon has played a significant role in, so I am pleased to be able to defer to the senior Senator from Nebraska and let him lead off with his, I am sure, enlightening testimony.

STATEMENT OF HON. J. JAMES EXON, U.S. SENATOR FROM NEBRASKA

Senator EXON. Mr. Chairman, thank you very much, and thanks to the members of the committee. And I appreciate very much those kind introductions by my friend and colleague from Nebraska.

I am going to be brief this morning, Mr. Chairman, but in trying to focus on some things, I appreciate the opportunity to come before you, to outline things as this Senator sees it, and I believe that the two Senators from Nebraska, as is customary, see pretty much eye to eye on this matter.

We do not envy the task that you people have in this area, especially when we look at the ever-tightening budget situation that confronts us.

Today you will hear from several distinguished Nebraskans—Mr. Michael Jess, director of Nebraska Department of Water Resources, and Michael was the director of the department when I was Governor, also during the time that Governor Kerrey was Governor of Nebraska, and he will testify on behalf of the present Governor of Nebraska.

Clifford Welsh will speak on behalf of the Nebraska Natural Resources Commission, and Ron Bishop, another seasoned developer of Nebraska waters interest and protection of those interests, will speak on behalf of the Central Platte Natural Resources District about the progress of the Prairie Bend project. Finally, Don Kilday will speak on behalf of the Twin Loup Irrigation District for the North Loup project and more specifically on the Davis Creek component, which is a matter of immediate urgency.

Other Nebraska project sponsors will present the subcommittee with written testimony. I will not go into the detail on every Nebraska water issue today, but you can expect to hear from me later since, as you know, I support them all.

DAVIS CREEK DAM, NE

Today I would like to focus, if I might, Mr. Chairman, on the Davis Creek component of the North Loup project. Because of the limited time, because it is the biggest omission in the President's budget. A good portion of the North Loup project, the Calamus Dam and associated canal, has already been completed. David Creek Dam will serve as a delivery system for the lower portion of the project.

It was targeted for abandonment by the Reagan administration and this year it is also a target for elimination by the Bush administration. Currently the Calamus Dam supplies irrigation water through the Mirdan Canal to tributary supplies canals. Water not

used from this canal flows into Davis Creek. With the dam in place as originally envisioned, the water will be delivered to farmers and ranchers.

To abandon Davis Creek would force upstream users who are already on line to shoulder a greater portion of the project's fixed costs. I brought with me several photographs which graphically show the folly, the absolutely folly, Mr. Chairman, of abandoning the Davis Creek Dam. Those in the administration that are proposing this obviously have not looked at what they are attempting to do.

The first two show the excavation dug so far; 500,000 cubic yards of earth have been moved already. I cite the picture that we have over there to show how much work has been done. I would point out that in volume the 500,000 cubic yards of earth that have already been moved would be equal to a building the size of a football field, 27 stories tall.

The other photograph that I have for you this morning shows the portion of the canal near Davis Creek. This canal was built with the capacity to service the Davis Creek Dam and would not be fully utilized if the dam is not built.

Pictures often speak louder than words, and these pictures say so loud and clear that we have too much already invested to halt Davis Creek in its tracks. Another way of putting that, Mr. Chairman, is that it would be a terrible waste of millions of dollars.

The Bureau of Reclamation has the manpower and the capacity to carry out the 16.7 million dollars' worth of work slated for fiscal year 1990. The Bureau of Reclamation placed this project in its 1990 budget. However, it was zeroed out by the Office of Management and Budget. The total cost remaining to complete the Davis Creek Dam is $21.3 million. Estimates on the cost of the shutting of the Davis Creek Dam begin at the $8 million figure.

Those sums of money that are not easy to swallow for any of us that are battling the budget right now. But when we look at the matter from the standpoint of the investment that we have already made, which is a good investment, we would be literally throwing all of that away if we continue to eliminate the project as recommended.

The time for the indecision is long since past. Turning back is not a reasonable approach, especially with a half-built project. 'I urge the committee to overrule the President's proposed abandonment and to allow the North Loup project to be completed. To do otherwise would be utter folly. Thank you, Mr. Chairman.

Senator DECONCINI. Senator Exon, thank you very much. And let me compliment for your display of the information here, and I recall last year you fought very hard to have the Appropriation Committee put in funds, and it was a disappointment indeed. This committee concurred with your judgment and direction and that of your colleague, as well as the Governor at the time, and did put in, I believe, $16 million last year. So, we will—certainly this Senator will take very seriously your testimony here today.

Senator EXON. Mr. Chairman, I just would like to add that during his 4 years as Governor of the State of Nebraska, Governor Kerrey was known as a prime mover, not only of eliminating funds from the State budget, he served at a time of extreme stress in the

agricultural economy. While other parts of the country were experiencing a recession, Nebraska was in a depression at that particular time. He knows whereof he speaks on where to cut, where not to cut, and I am delighted that he is here to give his testimony now.

Senator DECONCINI. Senator Kerrey.

STATEMENT OF HON. BOB KERREY, U.S. SENATOR FROM NEBRASKA

Senator KERREY. Well, I would also like to thank Senator Johnston for agreeing to permit these hearings and you, Mr. Chairman, for requesting them and conducting them because I think they are extremely important.

I would simply at the beginning add a few additional names to the list of testimony that will follow and ask that they be included in the record. Darrel Curry and Jan Peterson will present some testimony on the Missouri River bank stabilization project; Steve Oltmans will present for the Papio-Missouri Natural Resources District; Kent Miller will present for the Twin Platte Natural Resources District; Paul Pritts from Bostwich Irrigation District; and Tom Knutson from Farwell Irrigation District.

DAVIS CREEK DAM, NE

As Senator Exon would request that the full remarks I have prepared here be included in the record, I would also put some additional accumulation of testimony on the Davis Creek project.

I do not need to tell you, Senator, that every development project has controversy, and every development project has individuals who say this is not needed. We should not do it.

There will come a time, I believe, when people will stand in Arizona and say we thank the good Lord that Senator DeConcini fought for the Central Arizona Project. We need it.

And had we not fought those battles and had you not been there to fight them, that project would not have been there.

There will come a time when that will be a—not only a monument to your perseverance, but a monument to the people's willingness to make an investment in a future, in what we hope with Davis Creek is this does not become a monument in reverse, a monument to our lack of will and our lack of willingness to invest in the future. We hope it does not remain a weed-filled monument to our lack of courage, and instead we hope it ends up delivering the water that is needed to produce food that we all depend upon, and I appreciate your remarks in support.

It will obviously be difficult as you and I all know, it will be difficult, but we hope that we are able to achieve some unity as we will attempt with the entire congressional delegation across party lines and across ideology to make this investment in our future.

MISSOURI RIVER FISH AND WILDLIFE MITIGATION

I would also like to comment on a project called the Missouri River channelization project which occurred a number of years ago and was essential at the time. But that also produced a rather devastating impact in that we lost a significant number of wetlands up and down the Missouri River. That has produced in response an

authorization of $51.9 million to restore fish and wildlife habitat along the Missouri. This project is known as mitigation, and it is also essential.

The Corps of Engineers who, under section 22, is pursuing something similar to that, and it is extremely important and as a demonstration, as I said in my introduction of Senator Exon of what we must do simultaneously, which is to develop and to protect the resources that we have been given.

It is, I think, of equal importance to Davis Creek, and my hope is that in addition to the authorization, we will be able to find funds for it as well.

Finally, the only thing I would put out here other than the written statements is again, it is something that you know all too well, and that is that when we change the rules in the middle of the development, when in particular cost-sharing changes are made, it is extremely difficult for projects to move forward, and my hope is we would view these as contract and understand that no one would subject a contract to a midcourse alteration that would significantly affect either party.

And I am concerned that year-to-year consideration is given in particular to cost share changes that make it exceptionally difficult for local people to plan and to continue to move projects forward.

I just would reiterate in closing my support of you, Mr. Chairman, for conducting these hearings and my enthusiastic support of the individuals from Nebraska who are here today to present the details of the proposals that they have and, in particular, as Senator Exon mentioned, Michael Jess, who was my director of water resources who continues today to work for the Governor of Nebraska, itself, I think, an indication of how these efforts are and have been traditionally nonpartisan issues. We have traditionally seen them in the past as investments in our future, not as something to hang on our campaign brochures to demonstrate through either good Republicans or good Democrats.

PREPARED STATEMENT

Michael Jess will present the project for the State of Nebraska and I, as Senator Exon, support all those presentations. Cliff Welsh is here with the Natural Resources Commission. This is an exceptional organization that not only does a good job of presenting what you will hear today, but does an awfully good job and I just parenthetically urge upon your consideration—they do an awfully good job with the qualitative issues that have moved rapidly up the political agenda. They do an awfully good job of protecting ground water, and they are very, very important to our State, and I am glad to have them there. So, thank you very much.

Senator DECONCINI. As you have already learned, the budget shortages are going to affect all appropriations this year, but certainly you have plenty of allies here. We are going to do the best we can on the Nebraska projects, particularly the Davis Creek Dam. Thank you.

Senator EXON. Mr. Chairman, can I just add a note?

Senator DECONCINI. Certainly.

Senator EXON. Would you please advise me. I have to go and talk to 188 Nebraskans that are here for a Close Up Program. These things you are going to be listing today are extremely important to Nebraska. I would hope that the members of the committee would not only listen to those that are making the presentation and read the written testimonies submitted by those who will not make a formal presentation today so that I can try and fit this around my schedule to the best I can on this extremely busy day.

Could you advise me at this time what is to follow? Are you going right ahead with the Nebraska projects now or will there be other witnesses to testify before them?

Senator DECONCINI. No; Senator, we are going to go to the Arizona projects. I hope you can understand that.

Senator EXON. Why is that, Senator?

Senator KERREY. That is just alphabetical order.

Senator DECONCINI. Alphabetical order is the only reason. Thank you, Senator Kerrey. [Laughter.]

Because certainly they have no further or greater priority than the Nebraska projects.

Senator EXON. I just wanted to say that Senator Kerrey made all those nice statements about you, and Senator Johnston—it's been wonderful. I think he would have been not quite as enthusiastic had he known that Arizona was going to be considered today also.

What you are telling me, then, is that you are going to go ahead with testimony on the Nebraska projects and others and we will likely be here most of the morning, is that correct?

Senator DECONCINI. That is correct, Senator. We are going to—we always do have the precedent here of hearing members and then Governors and the Governor of Arizona is here today. She will proceed after you do, and then we will take up one project from Arizona in addition to her testimony, and then we will go to the International Association of Fish and Wildlife, and then we will take up all the Nebraska projects and listen and have the statements submitted.

Senator EXON. Thank you, Mr. Chairman.

SENATOR DECONCINI. Thank you very much, Senator Exon. Thank you, Senator Kerrey.

CENTRAL ARIZONA PROJECT

STATEMENT OF HON. DENNIS DeCONCINI, U.S. SENATOR FROM ARIZONA

Senator DECONCINI. It is a pleasure now for me to once again chair these hearings for the Energy and Water Subcommittee. This is kind of old home week, so many familiar faces from Arizona are here.

Governor Mofford, it certainly gives me great pleasure to welcome you this morning. If you would come and be seated and bring your water officials with you.

This time last year, Governor, you appeared before this committee under the most trying of circumstances having assumed the governorship after a very painful period in Arizona's history. This year, however, with your calm and wise leadership, our great State has made significant progress in healing many of the wounds. I compliment you for that leadership.

I want to also recognize Eldon Rudd, former Member of Congress who played a major role in the House serving on the subcommittee there.

Congressman Rudd, thank you for being here. Also former Governor Jack Williams, who served during the crucial and critical years of Arizona's initial funding of this project. Senator McCain is in the Armed Services Committee and will attempt to join us later.

Governor, the completion of the Central Arizona Project continues to be the highest priority of this Senator as it does Senator McCain. Thanks to the continuing support from the department and this committee, particular Senator Johnston, Senator Hatfield, and Senator McClure, we are well on our way to see the completion and the realization of this dream that so many Arizonans have worked so hard for.

I am particularly pleased with the funding request for the Central Arizona Project in 1990, $219 million. By allowing the Bureau to work at its full capabilities on the project, the administration has demonstrated a real commitment to see that it is completed and our goal of water in Tucson by 1991 is met.

I am also pleased with the level of funding requested for the Safety of Dams Program work on Stewart Mountain, Bartlett, Horseshoe, and Roosevelt Dams. The department recognizes the need to ensure that these structures are brought up to national standards in a timely manner as possible to protect those living downstream.

With respect to the Corps of Engineers' budget request, it is also for the most part favorable to Arizona. I am pleased that it contains $100,000 for continuation of the flood control study on the Salt River through the metropolitan Phoenix area. Also, the $650,000 request should complete the preconstruction activities on the structural flood control measures proposed for Clifton, AR. I think in the very near future Clifton will begin to see construction activities on the levee that will eventually protect that community.

I am, however, very disappointed that funding was not requested by the administration for the Rillito River project in Pima County. I feel that this project is absolutely essential to protect the property and lives of those living along this potentially violent stretch of river in Pima County, and we will continue to work for it.

I look forward to working with the committee chairman, who has been very generous to Arizona timewise and as history will show is one of the strongest supporters of the Central Arizona Project.

Governor, your statement will appear in the record. You may summarize it. I do want to ask first if Congressman Rhodes has any opening statement he cares to make.

STATEMENT OF JOHN J. RHODES III, U.S. REPRESENTATIVE FROM ARIZONA

Mr. RHODES. Thank you, Mr. Chairman. First of all, I have been asked by Senator McCain to ask unanimous consent that his statement could be included in the record at this time.

Senator DECONCINI. His statement will be placed in the record when received.

Mr. RHODES. And I likewise have a formal statement which I would ask unanimous consent to be included in the record at this point.

Senator DECONCINI. Without objection.

[The statement follows:]

STATEMENT OF REPRESENTATIVE JOHN J. RHODES III OF ARIZONA

MR. CHAIRMAN and members of the subcommittee, as always, it is a pleasure and honor to join my colleagues from Arizona to reinforce before the subcommittee our resolve and commitment to completing the crucial water development projects and delivery systems in our arid state.

CAP

It is heartening to note that the resolve demonstrated by this committee and the Congress as a whole, has thus far resulted in the on-time construction activities associated with the major features of the Central Arizona Project (CAP). That is in keeping with the commitments made initially in 1968 and again just three years ago this month, in the context of the historic Plan 6 cost-sharing agreement.

We are here to support the Administration's fiscal 1990 budget recommendation of $188.8 for the basic project (85% of the 335 mile long aqueduct is complete, with 45 miles of the Phase A Tucson Aqueduct now operational), along with additional recommended funding for Safety of Dams and other dam modifications on the Salt, Verde, and Agua Fria Rivers, along with non-Indian irrigation distribution systems. The President's recommended level of funding is in line with the projected schedule of federal payments set forth in the Plan 6 features cost-sharing agreement. Obviously, we also are pleased with the continued support from the Administration to see this massive project through to completion.

A revised CAP Master Repayment contract was signed between the Central Arizona Water Conservation District (CAWCD) and the federal government in December of last year. That contract further cements the local commitment to fully repay all reimbursable costs associated with the CAP.

Let me just say that since the Plan 6 cost-sharing agreement of 1986, the CAP proponents and beneficiaries, the Congressional Delegation, this subcommittee and the Congress, have wrestled with continuing challenges to meet changing times and changing priorities in Arizona and the nation. Together we have met those challenges in a positive and constructive manner. A significant part of the resolution of these issues has been substantial contributions of front-end cash from the CAWCD and the cities and towns (supported by local tax revenue), and major long-term bonding commitments by agricultural interests.

It would be naive not to anticipate further challenges as we work together to see this project and its associated features completed. That is the essential bottom line so that this project will serve all the people of Central Arizona and fulfill the primary purpose of the CAP -- to work in concert with Arizona's premier Groundwater Management Law which was designed to conserve precious groundwater resources, as a condition of CAP funding.

Those of us at this table and hundreds of unsung heroes of this achievement are committed to exhausting all our energies and combined intellect to meet and resolve further challenges that may lie ahead. To that end, we thank you for

your past support and welcome your continued interest and support. It will help assure that this project fulfills not only the hopes and dreams for which many of us have fought for years, but the reality of the very basic surface and groundwater needs that are so crucial to Arizona.

FLOOD CONTROL

The Governor will touch on the other needs regarding groundwater recharge, the Colorado River Salinity Control Program, and Corps of Engineer flood control projects in Arizona. For the most part, the Administration flood control proposals meet current needs, especially the $28.4 million proposed for continued construction the major ongoing project, the Phoenix and Vicinity flood control project. The Administration is also recommending two new important flood damage protection surveys at the Gila River Indian Community and in the Tucson Drainage Area. We certainly appreciate the foresight demonstrated in those recommendations.

WATER AUGMENTATION

Finally, let me revisit a request which I discussed in some detail in my testimony here last year -- weather modification. The Administration decided last year to essentially end this research and demonstration effort within the Bureau of Reclamation. Congress provided no money for the current year. Some minimal work is now being kept barely alive at the Reclamation offices in Denver. I won't dwell on my extensive statement of last year. Suffice it to say, I believe this is an important project.

The states, with Arizona a leader among them, are still willing to put up over $4 million for a 50/50 cost sharing program with the federal government to further investigate and demonstrate this technology which holds some promise for augmenting water supplies in the Colorado River Basin states. I hope the subcommittee would consider again this program and see if $4 million might be provided for the Bureau's Atmospheric Water Resource Management Program.

Again, thank you all for your interest and support of Arizona water development and flood control needs.

Atmospheric Water Resources Management Program

Mr. Rhodes. I will not take the time to go through that statement. I concur in your statements, Mr. Chairman, concerning the funding levels requested this year.

I just have one point that is not included in my formal statement that I would like to amplify on just briefly, and that relates to augmentation of resources. This is a renewal of a request I made last year which, unfortunately, was not able to be granted, but as you well know, the Bureau of Reclamation has developed a considerable body of knowledge related to weather modification. The weather modification activities of the Bureau were discontinued.

In the current fiscal year the capability still exists, the willingness of several Colorado basin States including Arizona to participate with the Bureau on a 50-50 cost share basis on weather modification activities is still open. The offers which have been put on the table total about $4 million, and it certainly would be my hope

that this year the Appropriations Committees of both the House and the Senate could consider a $4 million appropriation for the Bureau's atmospheric water resource management program so that this important effort can be continued. And with that, Mr. Chairman, I yield back and look forward to hearing from the Governor.

Senator DECONCINI. Congressman Rudd, would you like to join us up here? We would certainly welcome you sitting here with us today. And if you do care to make a statement, Congressman, you have played a major role in this project. I do not want to leave you out from any comments you have. Do you have any statement?

Congressman Rudd: No, sir.

Senator DECONCINI. Governor, please proceed.

CENTRAL ARIZONA PROJECT

STATEMENT OF HON. ROSE MOFFORD, GOVERNOR OF ARIZONA

ACCOMPANIED BY N.W. PLUMMER, DIRECTOR, DEPARTMENT OF WATER RESOURCES

Governor Mofford. Thank you, Mr. Chairman.

It is nice to see you here, Congressman Rhodes, and I thank you for being here.

I appreciate the opportunity to appear before this committee for the second time to discuss the appropriation for the water resource projects which certainly affect the State of Arizona.

My comments to you today will be brief. I have, however, brought more detailed written testimony with me and ask that it be made part of the record for your consideration.

Senator DECONCINI. Without objection, it will appear.

Governor Mofford. The testimony that I am submitting seeks your support for appropriations to the Bureau of Reclamation as well as the Corps of Engineers.

I have lived in Arizona all of my life, and I certainly have a deep appreciation for the value of the limited water resources that Mother Nature has provided us. However, we must be good guardians of this resource, and I believe that Arizona is fulfilling this duty.

We have already enacted a comprehensive ground water management code designed to assurance a balance between water use and supply in the ground water basins beneath our major metropolitan areas by the year 2025.

As a part of this program we are now completing what is referred to as the second management plan for each of the four active management areas in the state. These plans define the conservation and augmentation programs to be implemented in the decade between 1990 and 2000. We have put tough conservation requirements on all ground water users, and the law has sufficient teeth to assure that these conservation requirements are enforced.

However, conservation alone will not overcome our current ground water overdrafting situation. It is for that reason that continued appropriation for the Central Arizona Project which include dam safety features on the Salt and Verde River system and the Indian and non-Indian distribution systems are at the top of our list in requests.

The Central Arizona Project continues to be the foundation of our water resources management program in Arizona. The Bureau of Reclamation has made good progress constructing CAP facilities. The backbone of this project is the aqueduct which when completed will extend about 335 miles from Lake Havasu on the Colorado River to the south boundary of the San Xavier Indian Reservation near Tucson. Its pumping stations and distribution systems will allow deliveries to municipal, industrial, and agricultural customers as well as to Indian reservations throughout central and southern Arizona.

The aqueduct system is now over 85-percent complete. The Hayden/Rhodes and the Salt/Gila Aqueducts are complete, and the Tucson Aqueduct is well on its way toward conclusion. Water is now being delivered, in fact today, to several cities and irrigation district in Maricopa and Pinal Counties. Delivery of the CAP water to Tucson is scheduled for the year 1991.

In addition, we must not overlook the need for continued construction of distribution facilities for the Indian reservations. Funding of the Indian distribution facilities import not only to provide delivery of water o the Indian lands, but also to satisfy Federal obligation in Indian water rights settlements.

I hope that you can continue to appropriate sufficient funds next year and in the future years so that all of the CAP features can be completed on schedule.

We are also once again requesting your continued support for an appropriation for what is commonly known as plan 6. This plan is comprised of the regulatory storage division of the Central Arizona Project and the authorized safety of dam modification on the Salt and the Verde River reservoirs.

I am very pleased to report to you again this year that all parties have made appropriate contributions to the plan 6 cost-sharing agreement. As of January 1, 1989, non-Federal parties have given over $62 million to the construction of plan 6 facilities.

Your support in the past has also allowed the Federal Government to fulfill its obligations under this historic agreement.

The written testimony that I have submitted also requests your continued support for the Colorado River Basin Salinity Control Program and the High Plains Aquifer ground water demonstration projects and, once again, we are requesting the appropriation of money for the weather modification efforts in the State of Arizona.

In addition, the Arizona Corps of Engineers has a number of projects as well as programs in the State that we consider very important. At the top of the list is the flood control efforts in the Phoenix metropolitan area under the Phoenix, AR, and vicinity flood control project. We again urge your support for all of these projects.

In conclusion, Mr. Chairman, I want the committee to recognize that my statement before you today represents a consensus of many of those interested in the water resource development in Arizona including the Central Arizona Water Conservation District, who is the prime contractor with the Federal Government for the Central Arizona Project.

I would like at this time to thank the committee for the opportunity to appear before you today, and ask for your continued support for water resources development in Arizona.

A number of other entities are here to either submit written testimony or show visible support of the Arizona projects. I ask that you also accept their statements for the record.

PREPARED STATEMENT

And, in closing, thank you, Mr. Chairman, for the privilege of appearing before you today in behalf of the State of Arizona.

[The statement follows:]

STATEMENT OF GOVERNOR ROSE MOFFORD OF ARIZONA

Mr. Chairman and members of the committee, I would like to thank you for the opportunity to make this statement on behalf of the people of the State of Arizona. We appear before you once again in support of funding for the various water-related projects in our state.

There are several projects and programs which require your support if they are to continue: the Central Arizona Project, incluing safety of dams features and distribution systems; Colorado River salinity control; augmentation projects; and the Corps of Engineers flood control projects.

CENTRAL ARIZONA PROJECT

At the top of the list is the Central Arizona Project which was authorized in 1968 by the Colorado River Basin Project Act to provide a facility for Arizona to divert its unused entitlement of Colorado River water to water deficient areas of the state. Since construction began, it has become even more apparent that completion of the authorized features of the project is essential to Arizona's efforts to manage its limited water resources and to achieve its goal of reducing its dependence on a diminishing supply of groundwater.

Arizona appreciates the fact that consistent levels of congressional appropriations have allowed the Bureau of Reclamation to maintain construction of the Central Arizona Project on schedule. There has been excellent and steady progress since construction of the project began in 1973. Last year was no exception.

On December 1, 1988, an amendment to the master repayment contract for the Central Arizona Project was executed between the Department of the Interior and the Central Arizona Water Conservation District. This amendment is of significance to both the federal government and the district.

The repayment obligation ceiling was raised from $1.2 to $2.5 billion; thereby assuring the federal government that it would receive full payment for all reimbursable costs incurred. The amendment provides the district assurance that the benefits of the Project's operational elements will be realized.

I commend representatives of the federal government and the Central Arizona Water Conservation District who participated in the successful negotiation of this amendment.

For fiscal year 1990, the President has recommended an appropriation of $188.8 million for the Central Arizona Project. I strongly urge your approval of this recommendation.

The backbone of the Central Arizona Project is the aqueduct which when completed will extend about 335 miles from Lake Havasu on the Colorado River to the south boundary of the San Xavier Indian Reservation near Tucson. Its attendant pumping stations and distribution systems will allow deliveries to municipal, industrial, agricultural customers, and Indian reservations throughout Central and Southern Arizona.

The aqueduct system is now over 85 percent complete. The Hayden/Rhodes, Salt/Gila and the first 45 miles of the Tucson aqueduct are operational. Work is progressing on Phase B of the Tucson aqueduct with construction of the last two pumping plants and 3.5 miles of pipeline and tunnel work underway. An additional 14.5 miles of pipeline work will be started this year to complete the main stem system.

Since 1985, more than 1,000,000 acre-feet of Colorado River water have been diverted from Lake Havasu to Central Arizona. Last year, water was delivered to seven cities, ten agricultural districts and one Indian community. Additional municipal and industrial customers are being added each year.

The main stem aqueduct construction to Tucson must continue to be a priority. There are two reasons why completion of the aqueduct to Tucson is critical.

First and most obvious, the water delivery that will begin for Tucson area users in 1991 will substantially reduce groundwater pumping.

Second, the Southern Arizona Water Rights Settlement Act of 1982 committed the delivery of water to the San Xavier and Schuk Toak districts of the Tohono O'Odham Reservation by 1992. Delay beyond this date will impose serious financial penalties on the federal government. Approximately $80.0 million of the appropriation is required to maintain the construction schedule for the aqueduct facilities.

Arizona cities and agricultural districts are continuing to plan and construct facilities in order to assure the use of CAP water. New treatment plants have been constructed and are on line for the cities of Glendale, Mesa, Phoenix and Scottsdale. These cities have already expended about $175 million for these new plants and related distribution systems.

The city of Tucson has started construction on a $60 million water treatment plant, and $170 million worth of modifications to their distribution system are being made in preparation for the arrival of CAP supplies in 1991.

DISTRIBUTION SYSTEMS FOR NON-INDIAN AGRICULTURAL SUBCONTRACTORS

Distribution systems for non-Indian agricultural subcontractors are also an important element of the Central Arizona Project. These systems assure the planned use of project water. Agricultural subcontractors for project water have completed over 700 miles of distribution system pipelines and canals.

The various irrigation districts have assumed substantial risk by issuing over $75 million of general obligation bonds in order to provide up-front financing and cost-sharing of these distribution systems.

These districts must distribute Central Arizona Project water on schedule so that they can meet principal and interest payments on their bonds. For many districts, these payment schedules have already begun.

The budget presented by the President requests $15.9 million for continued construction of non-Indian distribution systems in fiscal year 1990. Appropriation of these funds will contribute substantially to the completion of these systems. I, therefore, urge your approval of these requested funds to assure completion of this portion of the project.

DISTRIBUTION FACILITIES FOR THE INDIAN RESERVATIONS

We must not overlook the need for continued construction of distribution facilities for the Indian reservations. A total of $15.1 million of the recommended $188.8 million is for these purposes.

Funding of Indian distribution facilities is important not only to provide delivery of water to the Indian lands, but also to satisfy federal obligations in Indian water rights settlements.

The Salt River Pima-Maricopa Indian community has recently concluded a water rights settlement agreement with the state of Arizona, the Salt River Project, the cities of Phoenix, Glendale, Scottsdale, Mesa, Tempe, and the town of Gilbert, as well as the Roosevelt Water Irrigation District, the Roosevelt Water Conservation District and the Central Arizona Water Conservation District.

Under provisions of the Salt-River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, the United States will be a party and signatory to this agreement.

The Settlement Act provides that $10 million is to be appropriated under authority of the Colorado River Basin Project Act to be used for the construction of new facilities for the delivery of Central Arizona Project water to Salt River Indian community lands.

The President's fiscal year 1990 budget recommends $3.1 million of the total $15.1 million request to initiate construction of these facilities. We support this recommendation.

An $11 million request for the Bureau of Reclamation to construct distribution systems on the Tohono O'Odham Reservation is also a part of the total recommendation. This is in addition to $6 million recommended under the authority provided in the Southern Arizona Water Rights Settlement Act of 1982. We urge your support of these appropriations to fulfill the obligation of the federal government pursuant to the Settlement Act.

PLAN 6

We are again requesting your continued support for an appropriation for what is commonly known as Plan 6. Plan 6 consists of the regulatory storage division of the Central Arizona Project and the authorized safety of dams modification on the Salt and Verde River reservoirs. Projects included in this plan are the New Waddell Dam on the Agua Fria River, enlargement of Roosevelt Dam on the Salt River, and safety of dams modifications on existing Horseshoe, Bartlett, and Stewart Mountain Dams on the Verde and Salt Rivers.

Plan 6 provides flood control, regulatory storage, conservation, safety of dams and recreational benefits to the project users and the public in general.

The Central Arizona Project authority appropriation needed for Plan 6 is approximately $90.6 million. The Reclamation Safety of Dams Act appropriation totals $22.2 million -- $13.8 million for designated work at Roosevelt Dam, $5.6 million for Stewart Mountain Dam, and $1.7 million each for Horseshoe and Bartlett Dams. Construction is already underway at Roosevelt and Stewart Mountain Dams. These amounts will insure that work remains on schedule.

Arizona has taken on substantial financial responsibilities to support water related projects in the state.

In 1986, several Arizona entities entered into a historical cost-sharing agreement with the Secretary of the Interior to assure financial support of Plan 6 of the Central Arizona Project. This agreement provides that Arizona will advance funds towards the completion of Plan 6 facilities.

In order to satisfy its commitment, by January 1, 1989, over $62 million has been contributed toward the construction of Plan 6 facilities by the non-federal parties to the cost-sharing agreement. To date, the federal government has also fulfilled its obligation under the cost-sharing agreement and appropriated sufficient funds for completion of the remaining Plan 6 facilities on schedule.

As a result of the June 1987 agreement between the Arizona congressional delegation and the National Coalition to Stop Cliff Dam, Plan 6 was modified to exclude Cliff Dam.

The agreement, however, recognized the need to identify appropriate flood control solutions on the Salt and Verde Rivers and to find a water supply as replacement for the one which would have been developed by Cliff Dam. We support continued study of this matter.

CORPS OF ENGINEER PROJECTS

We would now like to address the matter of the Corps of Engineer projects in Arizona. Construction continues on the "Phoenix Arizona and Vicinity Flood Control Project", which will protect the north and west side of the Phoenix metropolitan area.

We support the President's budget request for $28.4 million for this project.

We are pleased that the Corps has developed justified plans and is proceeding into advanced stages of preconstruction engineering and design in two other long time problem areas, those in Nogales and Clifton. We agree with the approach taken by the Corps and support the administration budget requests of $350,000 and $650,000 respectively to continue work on these areas.

We are encouraged to see that the Corps of Engineers has identified the start of two new reconnaissance level studies in fiscal year 1990: one for the Gila River Indian community which suffered severe damage in the October 1983 storm that devastated the southern and central portion of the state; and the other with the city of Tucson that will examine a number of flooding problems within the city itself.

Finally, as you are aware, the Assistant Secretary of the Army recommends the construction of a flood control project along the Rillito River in Tucson. The Office of Management and Budget has recently directed the Corps to stop work on this vitally needed flood control project. We strongly request that you direct the Corps to resume construction on this project.

COLORADO RIVER WATER QUALITY IMPROVEMENT PROGRAM

I would also like to take this opportunity to discuss the Bureau of Reclamation's Colorado River Water Quality Improvement Program.

When the Central Arizona Project becomes fully operational, use of Colorado River water in Arizona will represent over 60 percent of the state's average long term renewable water supply. We are very concerned about the salinity levels of this essential supply.

President Bush's budget includes $11.9 million for construction and planning of facilities under the Bureau of Reclamation's program. This amount is not adequate for all the projects which are required to maintain the salinity of the Colorado River at or below the adopted and approved standards.

The Colorado River Salinity Control Forum, which is made up of representatives of the 7 Colorado River basin states, has examined all features needed to control salinity in the Colorado River. It has concluded that $19.5 million is required to insure that salinity standards be met in the future.

I urge you to fund this program at the level recommended by the Salinity Control Forum in fiscal year 1990. For more details on individual projects, I refer you to a detailed statement regarding this program which has been provided to your committee by Jack A. Barnett, Executive Director of the Colorado River Basin Salinity Control Forum.

WEATHER MODIFICATION

Turning to another issue important to Arizona, I want to emphasize our optimism over results of the investigations into weather modification conducted recently on the Salt and Verde River systems.

We believe we can augment our limited water supplies through a long term program of cloud seeding. We have been working with the Bureau of Reclamation, through cost-sharing arrangements, to develop a long range program which can be started in the early 1990's.

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Current efforts should not only help Arizona in our water management efforts, but may also extend the techniques to the Colorado River basin where substantial benefits will be realized by all water users in the basin and the federal government.

The President's recommended budget contains no funding for the Bureau of Reclamation's Atmospheric Water Resource Management Program for FY 1990. However, the western states have indicated a willingness to participate in weather modification programs and, in aggregate, to provide matching funds of $4.2 million for such efforts.

I ask that you restore the Atmospheric Water Resource Management Program, and appropriate $4.2 million to the Bureau of Reclamation so that this important project can continue as a joint effort with participating non-federal interests.

GROUNDWATER MANAGEMENT LAW

Arizona is firmly committed to the requirement that Central Arizona Project water will be put to use commensurate with conservation practices and consistent with the intent of the Colorado River Basin Project Act.

In 1980, the state passed a comprehensive groundwater management law. This law is far reaching and is designed to assure a balance between water use and supply by the year 2025 in most of the project's service area.

In order for us to achieve the goals set forth in the code, it is absolutely essential that the Central Arizona Project be completed in a timely manner. I cannot over emphasize this point.

The Tucson Active Management Area, which has yet to receive project water, is just one example of the consequences of the failure to meet construction deadlines. Under 1985 levels of development, the total demand for water was 307,000 acre-feet per year. To satisfy this demand, 178,000 acre-feet had to be mined from the groundwater basin. Even with extensive future municipal, industrial and agricultural conservation, effluent reuse, and water supply augmentation, this demand cannot be met.

GROUNDWATER RECHARGE

Groundwater recharge is a program which has promise to help Arizona in its efforts to manage the limited water resources and reduce groundwater overdraft.

One recharge site, the Rillito site in Tucson, has been selected in Arizona by the Bureau of Reclamation as a demonstration project under the High Plains States Ground Water Demonstration Project Act of 1983.

The President's budget recommends $413,000 out of the total $7.3 million requested for work at this site. I support this project and urge your support support.

CONCLUSION

In summary, I urge your continued support of funding for the water related projects in Arizona. The Central Arizona Project with related safety of dams and distribution system needs, is at the top of the Bureau of Reclamation's list with a total request of $227.6 million.

Other projects and programs (Colorado River Salinity Control, weather modification, groundwater recharge and flood control) I have mentioned are also of great value to Arizona. We are proud of our joint efforts with the federal government in these important programs.

I would like to add that my statement before you today is a joint effort of many of those interested in water resources development in Arizona, including the Central Arizona Water Conservation District.

Mr. Chairman, I thank you and the committee for your continuing support.

STATEMENT OF MARICOPA-STANFIELD IRRIGATION AND DRAINAGE DISTRICT

Mr. Chairman and Members of the Subcommittee:

My name is John E. Smith. I am President of the Board of Directors of the Maricopa-Stanfield Irrigation & Drainage District which comprises approximately 89,000 acres of irrigated land in northwestern Pinal County, Arizona. On behalf of the District's Board of Directors and landowners, I wish to thank you for the opportunity to present this statement and to express agreement with Governor Mofford's testimony which has been presented to you.

I am pleased to report that as a result of the support of your Subcommittee and the Congress in scheduling funding for the Central Arizona Project (CAP) irrigation distribution systems, construction of our District's distribution system facilities will be fully completed this summer and the District will then be able to deliver CAP water to lands in its entire service area.

The District's construction program made significant progress this past year in completing an additional 120 miles of our Project's total of nearly 200 miles of distribution system canals and related facilities. As construction of each distribution system unit is completed, the Bureau of Reclamation transfers the responsibility for operation and maintenance of the canal facilities to the District. Approximately 90 percent of the distribution system facilities have been transferred and are now being operated by the District. During 1989, we expect to deliver over 230,000 acre-feet of CAP water to District lands.

The main conveyance facility extending from the CAP Aqueduct into the District is the 56-mile long Santa Rosa Canal (completed in 1987) which is jointly used with the Central Arizona Irrigation and Drainage District, the Ak-Chin and Chuichu Indian Communities and several municipal interests. Maricopa-Stanfield is the Watermaster responsible for operation and maintenance of this conveyance facility. In addition to the 230,000 acre-feet or more of CAP water to be delivered to Maricopa-Stanfield District lands, 30,000 acre-feet are scheduled to be delivered to lands in the northern portion of the Central Arizona District and about 70,000 acre-feet to Ak-Chin Indian Reservation lands from the Santa Rosa Canal.

Upon completion of our distribution system facilities this summer, the District will have expended $26 million of general obligation bond funds as its share "up-front" cash contribution to the total estimated Project cost of nearly $90 million. However, the overall financial investment by the District and its landowners is substantially greater than $26 million when you include the investments being made by landowners in on-farm water conservation improvements including concrete-lined ditches, drip and sprinkler systems, and land leveling with laser-controlled equipment. We will soon realize the results of the local and Federal investment in irrigation as we begin full operation of our Project.

The District wishes to acknowledge the excellent cooperation we have received from the Bureau of Reclamation. Again, we thank the Subcommittee for its support to the CAP.

STATEMENT OF CENTRAL ARIZONA IRRIGATION AND DRAINAGE DISTRICT

Mr. Chairman and Members of the Subcommittee:

My name is Norman Pretzer. I am President of the Board of Directors of the Central Arizona Irrigation and Drainage District which comprises approximately 88,000 acres of irrigated land in south-central Pinal County, Arizona. On behalf of the District's Board of Directors and landowners, I wish to thank you for the opportunity to present this statement and to express our agreement with Governor Mofford's testimony which has been presented to you.

As a result of the support of your Subcommittee and the Congress in meeting the schedule of funding for the Central Arizona Project (CAP) and its irrigation distribution systems, our District expects to deliver nearly 100,000 acre-feet of CAP water during 1989 to lands in the north and central portions of our District where distribution system facilities are completed. Coordination last month with the Bureau of Reclamation on start-up operation of two pumping units at the Brady Pumping Plant on the CAP Tucson Aqueduct enabled the District to begin delivery of water to certain lands within the central portion of our District. As construction of the remaining distribution system facilities in the central portion of the District are completed later this summer, additional lands will be able to receive the much needed CAP water this year.

Two major contracts were recently awarded for construction of the District's South Main Canal and South Distribution System which will provide water service to some 19,000 acres in the south portion of the District. Final construction of these facilities in early 1990 will effectively complete our distribution system Project.

You will recall that the District issued $22.7 million in general obligation bonds to fund its share of the distribution system Project, estimated to cost $83.6 million. The District's "up-front" cash contribution expenditures are nearly $20 million through February 1989 for legal, administration and engineering costs, relative to acquisition of rights-of-way, design and construction management and for costs of initial start-up operations. The total financial investment by the District and its landowners in preparing for the delivery of CAP water is significantly greater than $22.7 million with costs incurred by landowners for necessary on-farm improvements in concrete-lined irrigation ditches, drip and sprinkler systems, and in laser-controlled land leveling in order to achieve water conservation. Therefore, it is essential that the District's distribution system facilities are completed on schedule and revenues are received from water deliveries to all District lands so that the District will be in a financial position to begin repayment of the full bonded indebtedness.

The District would like to take this opportunity to acknowledge the excellent cooperation we have received from the Bureau of Reclamation at all levels. Again, we thank the Subcommittee for its support to the Central Arizona Project. With continued timely appropriations by Congress, supplemented by our bond money, we are confident that our distribution system can be completed on schedule.

STATEMENT OF IRRIGATION & ELECTRICAL DISTRICTS ASSOCIATION OF ARIZONA

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE. I APPRECIATE THIS OPPORTUNITY TO APPEAR IN SUPPORT OF OUR GOVERNOR, ROSE MOFFORD, AS SHE EXPLAINS TO YOU THE NEED TO CONTINUE THE APPROPRIATIONS FOR THE CENTRAL ARIZONA PROJECT.

THE IRRIGATION AND ELECTRICAL DISTRICTS' ASSOCIATION OF ARIZONA IS A NON-PROFIT ARIZONA ASSOCIATION COMPOSED OF IRRIGATION, ELECTRICAL AND WATER CONSERVATION DISTRICTS AND THE AK-CHIN INDIAN COMMUNITY. OUR MEMBERS HAVE CONTRACTED FOR OVER HALF OF THE AGRICULTURAL WATER SUPPLY OF THE CENTRAL ARIZONA PROJECT. THUS, WE HAVE A VITAL INTEREST IN THE TIMELY COMPLETION OF THE PROJECT. OUR MEMBERS WERE AMONG THE FIRST SUPPORTERS OF THE CENTRAL ARIZONA PROJECT AND HAVE SHOWN THEIR CONTINUING SUPPORT BY PLEDGING THEIR LANDS TO FUND OVER $60 MILLION OF BONDS FOR DISTRIBUTION SYSTEMS TO OUR MEMBERS. AFTER FOUR DECADES OF STRUGGLE, WE SAW THE FIRST CAP WATER DELIVERED IN 1986 AND IN 1987 WITNESSED THE INITIAL DELIVERIES INTO THE SANTA ROSA AQUEDUCT, THE LARGEST SINGLE DISTRIBUTION SYSTEM OF THE PROJECT. WE HAVE PUT OUR MONEY WHERE OUR MOUTH IS. WE HAVE MORTGAGED OUR LANDS AND WE HAVE BET ON ARIZONA'S FUTURE.

WE HAVE ALSO ACCEPTED THE RESPONSIBILITY FOR CONSERVATION. FOR EVERY ACRE FOOT OF WATER DELIVERED TO AGRICULTURE FROM THE CENTRAL ARIZONA PROJECT, AN ACRE FOOT OF GROUNDWATER WILL NOT BE PUMPED. INSTEAD IT WILL BE CONSERVED IN THE LEAST EXPENSIVE AND MOST EFFICIENT WAY GROUNDWATER CAN BE CONSERVED, BY LEAVING IT WHERE IT IS. OUR MEMBERS ARE ALSO EXPLORING WAYS TO CONSERVE WATER IN AGRICULTURAL APPLICATIONS. ACHIEVING THESE CONSERVATION MEASURES THOUGH IS SIGNIFICANTLY DEPENDENT ON TIMELY COMPLETION OF THE CENTRAL ARIZONA PROJECT. WE ARE EXPLORING NEW TECHNOLOGIES AND RECHARGE APPLICATIONS AND SUPPORTING THE EFFORTS OF THE BUREAU OF RECLAMATION TO INVESTIGATE THE POTENTIAL FOR WEATHER MODIFICATION IN CENTRAL ARIZONA. ALL OF THESE EFFORTS MAY BE

NECESSARY TO GUARANTEE LONG-TERM WATER SUPPLIES IN OUR AREA. THE CENTRAL ARIZONA PROJECT, HOWEVER, IS THE SINGLE KEY TO SUCCESS IN THIS EFFORT. WE URGE YOUR CONTINUED SUPPORT FOR THE PROJECT IN ORDER THAT WE MIGHT PLAN FOR THE WATER SUPPLIES OF THE FUTURE NOT ONLY FOR AGRICULTURE BUT FOR THE HUNDREDS OF THOUSANDS OF PEOPLE WHO ARE MIGRATING TO CENTRAL ARIZONA.

THANK YOU FOR THE CONTINUING SUPPORT YOU HAVE GIVEN THE CENTRAL ARIZONA PROJECT. WE URGE YOU TO PROVIDE THE FUNDS TO FINISH THE PROJECT AS QUICKLY AND EFFICIENTLY AS THE BUREAU AND WE CAN WORK TOGETHER TO GET IT DONE.

STATEMENT OF CITY OF PHOENIX, AZ

Dear Mr. Chairman and Committee Members:

I am pleased to be able to support President Bush's budget recommendation of $188.8 million for the Central Arizona Project (CAP). The President's recommendation is designed to keep the entire project on the schedule which was agreed to in the historic local cost sharing agreement signed in April of 1986. That agreement provides for the contribution of $371 million in local up-front cost-sharing from eleven Arizona parties between 1986 and 1995. To date the City of Phoenix has contributed over $11 million of its $33 million share of these local costs. In addition, the City will provide at least $140 million over the life of the project toward repayment of the CAP, as provided by law.

Since 1984, the City of Phoenix has spent $66 million on the construction of a new treatment plant and distribution system for the delivery of the CAP water. The City is currently under design on a plant expansion to double the treatment plant's capacity within two years at a cost of $20 million and has programmed $25 million in additional distribution system construction over the next five years. This year the City will distribute approximately 32,000 acre feet of treated CAP water to our customers, which will make up over 11% of the City's total supply. Ultimately, the Central Arizona Project will supply over one-quarter of the water needs of the City's projected two million customers. Clearly, Phoenix is commited to the success of the CAP.

The timely completion of the Central Arizona Project, including the Plan Six features, is of great importance to the City of Phoenix. Two years ago the City suffered a great disappointment with the removal of Cliff Dam from the Plan Six features of the CAP. Without Cliff Dam as part of Plan Six, the City will continue to live under the threat of floods like those we experienced in the late 1970's and early 1980's and with the potential for a disastrous failure of one of the federal government's upstream dams. Additionally, Plan Six was to provide badly needed water conservation and recreational functions. Currently, the Secretary of the Interior, with the assistance of the Secretary of the Army, is looking for ways to replace the flood control, dam safety, water supply and recreational functions of Cliff Dam. We are committed to assisting the Secretary in a speedy completion of his tasks. Therefore, I respectfully request that the Committee support the President's appropriation recommendation for the Central Arizona Project and Safety of Dams so that the United States and the people of Arizona can finish this vital project as rapidly as possible.

On behalf of the nearly 1,000,000 citizens of the City of Phoenix, I want to thank the Committee for its continuing support for these important programs.

STATEMENT OF SALT RIVER PROJECT

Mr. Chairman, thank you for the opportunity to submit this statement for the record in support of the U. S. Department of Interior Fiscal Year 1989-90 appropriations for water resource development in Arizona.

My name is John Lassen, and I am president of the Salt River Project. The Salt River Project is composed of the Salt River Project Agricultural Improvement and Power District, a political subdivision of the State of Arizona; and the Salt River Valley Water Users Association, a private water delivery organization.

Together, the Association and the District provide water and power to some 250,000 acres and about a half million customers in the Phoenix metropolitan area.

As an agent of the federal government, the Salt River Project operates six dams on the Salt and Verde rivers northeast of Phoenix. These structures impound the runoff from a 13,000-square-mile watershed to provide the surface water supplies for agricultural, residential, recreational, municipal and industrial use in Central Arizona.

Organized in 1903 under the National Reclamation Act, the Salt River Project is the nation's oldest, and some would say, most successful multi-purpose reclamation project.

From the perspective of a water manager and water rights administrator, the Salt River Project believes the timely completion of the Central Arizona Project (CAP) is critical to prudent water management in Central Arizona. For that reason, the Salt River Project supports the President's recommended budget for fiscal year 1989-90 of $188.8 million to continue construction of the Central Arizona Project and $15.9 million for construction of non-Indian distribution systems connected to the Project.

Additionally, the Salt River Project vigorously supports the recommended expenditure of $22.8 million for the safety of dams portion of Plan 6 to enable substantial safety modifications at Theodore Roosevelt Dam and Stewart Mountain Dam on the Salt River and Horseshoe and Bartlett dams on the Verde River.

The President's budget recommends and the Salt River Project supports expenditures under the Reclamation Safety of Dams Act of the following amounts: $13.8 for Theodore Roosevelt Dam, $5.6 million for Stewart Mountain Dam, and $1.7 million each for Bartlett and Horseshoe dams.

The need for safety modifications at these dams was underscored by experiences in the Phoenix metropolitan area during 1978, 1979 and 1980. Three devastating floods during this period, caused some $100 million damage and threatened the security of everyone and everything within the mile-wide floodplain of the Salt River. Damages to Salt River Project facilities, alone, totaled $13 million.

During the storms which caused this flooding, the dams on the Salt and Verde rivers were at severe risk of overtopping and failing. Had that occurred, damage would have totaled into the billions of dollars.

Mr. Chairman, although these dams were built to state-of-the-art standards earlier in this century, current technology and more than 80 years of real-world experience tells us they are unable to withstand the maximum probable storms we now know are possible on the watersheds which feed their reservoirs.

Completion of the safety modifications at the soonest possible date is imperative to the lives and livelihoods of the 2.8 million citizens of Central Arizona.

If I may Mr. Chairman, I would also respectfully advise the committee that the USBR has programmed for FY 91 some $47 million at Theodore Roosevelt and $2.2 million at Stewart Mountain. All of us in Central Arizona trust that the Congress will continue to support this important activity.

Also of concern to the Salt River Project is the committee's support for federal commitments made when the 100th Congress enacted the Salt River Pima-Maricopa Indian Water Rights Settlement Act. The Act, you may recall, obligates the federal government to assist financially in the design and construction of water distribution facilities for the Indian Community located near Phoenix.

Like the CAP, Plan 6 and the plan for safety modifications to the Salt and Verde river dams, the Salt River Pima Maricopa Indian Water Rights Settlement is another example of how Arizonans can work in partnership with the federal government to manage water resources wisely.

The settlement is a carefully crafted plan which insures equity and fairness and provides for substantial costsharing by local interests.

Therefore, we urge the committee to endorse the Administration's recommendation for $3.1 million in FY89-90 of the $10 million federal obligation under CAP authorization.

Thank you, again, for the opportunity to make this statement.

INDIAN WATER RIGHTS SETTLEMENT

Senator DECONCINI. Governor, thank you very much, and all the statements—I do know there are a number of organizations here and groups from Arizona—all the statements will appear in the record.

I want to welcome Mr. Plummer. He has had a great deal to do with this project before he came to work for the State of Arizona. We welcome him here.

Governor, you mentioned the Indian water rights settlements. It is of great concern to this Senator and those of us in Arizona, we were successful here in completing the negotiation of water rights settlement for the Salt River, Pima-Maricopa Indian community. That was the good news. Your leadership played a major role in Arizona's participation in these negotiations. Unfortunately, the administration has only asked for, I believe $5 million for this settlement, way short of what is necessary, and we are going to continue to work on this.

I do want to ask, Governor, if you intend to and what your plans are for the role that you can play in negotiating of other Indian water rights settlements in Arizona.

Governor Mofford. Well, we were very saddened—Mr. Chairman, we were very satisfied with the settlement that had been agreed upon with the Indians, and we feel that settlement is a comprehensive agreement which resolved the water rights dispute that has existed in Arizona for a long time for many years. We support the

approach taken by this agreement to negotiate rather than litigate, and I certain will take a very active role in any future settlements.

Senator DECONCINI. Do you anticipate any roadblocks in ultimate resolutions of some of the other outstanding water rights settlements in Arizona, Governor?

Governor Mofford. Well, I think, yes. Funding is the most important problem that we are faced with.

Our State legislature will pass the bill appropriating $1.5 million in 1990, another $1.5 million in 1991 which I certainly support. But I feel that the Federal Government must also do its part and appropriate sufficient funds for this.

WATER TRANSFERS

Senator DECONCINI. Governor, let me turn to another question, water transfers. What is the status of the legislation pending before the Arizona State Legislature relating to these transfers?

Governor Mofford. Water transfers are a very important part of our overall water management in Arizona, and water interests have been meeting and will continue to meet to resolve this particular issue. I am hopeful that during this session that a bill will reach my desk that I can sign into law.

Senator DECONCINI. Have you supported any particular legislation in this area?

Governor Mofford. Yes; we are working very hard in meeting with various interested party groups and that is why I feel very confident that a bill will reach my desk before the end of the session.

Senator DECONCINI. End of this session?

Governor Mofford. Um-hum.

Senator DECONCINI. Governor, Congressman Rhodes raised the question of weather modification, and your testimony points out the importance of this subject matter as a possible water management tool. What has been the level of Arizona's involvement in this program? Can you give the committee any background on that?

Governor Mofford. Arizona has joined with other States in working on—with intergovernmental agreements and certainly on a cost-sharing basis, and at the present time that I think it is important that we work with the Bureau of Reclamation in resolving this as well as securing future funding from the Bureau.

Senator DECONCINI. What direct—or if you know, what direct participation if funding is restored, what role and participation will Arizona assume in these investigations and this project? Do you have any plans or does Arizona have any plans yet? Are you waiting for us to fund it?

Governor Mofford. We are waiting for you to fund it, but Mr. Plummer would like to address that.

Senator DECONCINI. Mr. Plummer.

Mr. PLUMMER. We have had contracts underway with the Bureau for a number of years now on a cost-sharing basis, 50 percent-50 percent. We would hope that would continue, but obviously it requires a like appropriation to the Bureau for that program.

We are on about our fourth contract now. We just executed one about 3 weeks ago for the effort for this coming year, and we are

hopeful there is an appropriation at the Federal level so that we can continue that effort.

Senator DECONCINI. So, the State is prepared to fund 50 percent?

Mr. PLUMMER. That is correct, sir.

CLIFTON, AZ, FLOOD CONTROL PROJECT

Senator DECONCINI. Thank you, very much.

Governor, the last question, and it is one kind of I know the answer, but your long history in the eastern part of our State relating to the tremendous flood problems in the community of Clifton, in this year's budget request the Corps has requested $650,000 for preconstruction activities for structural flood control alternatives. Do you have an opinion on the proposed levee, if this is going to be sufficient or has the State water office taken a look at it sufficient to address the flood control needs of Clifton?

Governor Mofford. Mr. Chairman, it has been a major accomplishment to develop a plan which resolved the flooding problems in Clifton. However, there are two parts to the problem of flooding in Clifton, and one of the most important, of course, the levee portion is proceeding, but we need additional funds through the Corps of Engineers must be made available to make this a reality.

I also must stress that the other part of the problem is the relocation of the residents in that area.

Senator DECONCINI. Do you believe that is a necessary part of the solution there is to have the relocation to Tabletop Mountain?

Governor Mofford. Absolutely. I chaired the task force when this flooding took place in Arizona. It was a very serious problem then, and I think it will be in the future to relocate these residents.

Senator DECONCINI. Can you or Mr. Plummer give us just a brief background of what Arizona's participation in the project has been or will be?

Mr. Plummer?

Mr. PLUMMER. Mr. Chairman, part of the department of water resources is involved in flood plain management, flood plain analyses, and we are working closely with the Corps to ensure that the area is protecting, including those residents that are not completely protected by the levee and, therefore, need to be relocated.

So, we are working with them on that issue.

Senator DECONCINI. Thank you. Thank you very much. Governor, I have no further questions.

Congressman RHODES.

Mr. RHODES. Mr. Chairman, I do not have a question but I do have an observation. Because looking out into this audience is—first of all, as you mentioned, it is kind of like looking out at home. One does wonder who is minding the store back there. [Laughter.]

But I think we would be remiss, Mr. Chairman, if we did not once again recognize that loosely constructed but extremely important organization that we have all called the "Great Arizona Partnership." And the partners are all out, and we all know that if the partnership had not existed and if our friends at home had not been able to come up with a united front to present to this Congress that not one spoonful of dirt would ever have been turned on construction of this project.

Now, the project is moving away from the construction phase and into the operational phase, and the need for maintenance of unity and for the partnership to continue to exist is as strong as it ever was.

We all need to recognize that the project was built for the benefit of all Arizonans, it was built to help our State grow and to maintain a quality of life for its citizens. It also represents a tremendous investment on the part of the United States and the taxpayers of the entire country. And they expect the project, of course, to be operated in its most efficient fashion so that we can maximize the return on the "investment not only to the people of Arizona, but to the United States.

One key element of this project was mentioned by the Governor in her testimony. That was the Groundwater Management Act, and if we had not gotten that act into place, again, the project would have been stopped because a key purpose of this project is to reverse the mining of our ground water resources.

So, far from the end of construction, seeing the end of the unity in the State, the unity that has been displayed for the past 20-some years, 50-some years of the history of this project is just as important as it ever was, and I know we are all going to work toward that end, all of us up here and all of you out there.

Governor, thanks for being with us.

Senator DECONCINI. Thank you, Congressman. Thank you very much, Governor, for your testimony.

Governor Mofford. Thank you.

Senator DECONCINI. We are going to hear briefly from Chairman Gerald Anton of the Salt River Pima-Maricopa Indian Tribe.

SALT RIVER PIMA-MARICOPA INDIAN WATER RIGHT SETTLEMENT

STATEMENT OF GERALD ANTON, PRESIDENT, SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY

Mr. ANTON. Thank you, Mr. Chairman. I will make it very brief. On behalf of the Salt River Pima-Maricopa Indian Community, I welcome this opportunity to appear before the subcommittee in the company of the distinguished Governor of Arizona and other distinguished leaders from our State who are here.

On October 20, 1988, President Reagan signed into law the Salt River Pima-Maricopa Indian Community Water Settlement Act of 1988. That authorizes and directs the Secretary of the Interior to executive a water settlement agreement between the parties. The agreement settles once and for all the water claims of the Salt River Pima-Maricopa Indian Community.

The significant responsibility of the United States was recognized in the act by the direction to the Secretary to pursue the existing authority of the Colorado River Basin Project Act, and that is to design and construct new facilities for the delivery of water on the community reservation lands.

The Bureau for Reclamation has programmed a total of $10 million for the design and construction of the facilities and has programmed $3.1 million for such expense during the fiscal year 1990. We are here today to support the United Arizona Delegation in their request that this committee affirm the act on the Central Ari-

zona Project appropriations for the 1990 fiscal year budget. I thank you for this opportunity.

Senator DECONCINI. Thank you, Mr. Anton. We appreciate your being here and I also want to thank you and your leadership in the resolution of the Indian water settlement for the Salt River Pima-Maricopa Indians. Without your leadership, it literally would not have come about and we thank you for that.

[The statement follows:]

STATEMENT OF GERALD ANTON

Mr. Chairman, Members of the Subcommittee,

On behalf of the Salt River Pima-Maricopa Indian Community, I welcome this opportunity to appear before the Subcommittee on Energy and Water Development of the Committee on Appropriations in the company of the distinguished Governor of the State of Arizona and other distinguished leaders from our State. The Salt River Pima-Maricopa Indian Community prides itself on its effort over many years to move toward economic self-sufficiency. We have been largely successful in that effort. The Community owns and operates one of the largest sand and gravel concerns in the United States. It owns one of the two cement plants in Arizona. It owns and operates a regional sanitary landfill serving its own needs as well as those of surrounding municipalities. The Community is engaged in a plan of limited commercial development on its boundary lands. The Salt River Indian Community has developed strong governmental departments which provide services in the areas of health, social services, land and resources, education, police and fire, courts and special youth services. The Community has a strong and active Community Council supported by an administration which supervises the provision of those services.

In the proper administration of tribal government, the Salt River Community has endeavored to resolve the outstanding disputes it has had with the United States and with its neighbors. Several such disputes have been settled to the mutual benefit of the parties involved. The latest such resolution is perhaps the most significant.

On October 20, 1988, President Reagan signed into law the Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988. That legislation was the result of many years of effort on the part of the United States, the Salt River Pima-Maricopa Indian Community, Cities and Towns of Central Arizona,

the Salt River Project, the State of Arizona and Irrigation Districts within the Central Arizona area to satisfy the water rights of the salt River Pima-Maricopa Indian Community. The Act authorizes and directs the Secretary of the Interior to execute a Water Settlement Agreement between the parties and ratifies that Agreement. The Agreement settles once and for always the water claims of the Salt River Pima-Maricopa Indian Community in a manner eminently satisfactory to the Community.

The policies of the United States over many years restricted the amount of water available to the Salt River Pima-Maricopa Indian Community while those same policies subsidized the construction of large reservoir and dam facilities for the purpose of providing water to non-Indians in the Salt River Valley. The significant responsibility of the Untied States was recognized in the Act by the direction to the Secretary pursuant to the existing authority of the Colorado River Basin Project Act (43 U.S.C. 150 et seq.)

> ". . . to design and construct new facilities for the delivery of water from the Community's turnout on the CAP Granite Reef Aqueduct and from the Arizona Canal to the irrigable Community reservation lands lying north of the Arizona Canal and west of the Parker Dam Power Project power transmission line easement and to irrigable Community reservation lands south of the Arizona Canal at a cost which shall not exceed the cost for such design and construction which would have been incurred by the Secretary in the absence of the Agreement and this Act."

The Bureau of Reclamation has programmed a total of $10,000,000 for the design and construction of the facilities and has programmed $3,100,000 for expenses during the fiscal year 1990.

We are here today to support the united Arizona delegation in its request for the full appropriation.

The Act additionally provides for the appropriation of $47,470,000 under the authority and obligation of the Snyder Act (25 U.S.C. 13) for water and community development.

The Act does not become effective in regard to the Water Settlement provisions unless the appropriations authorized under the Act have been appropriated before December 31, 1991, and

unless certain collateral agreements are executed or approved by that time. Additionally, the Act will not become effective until the State of Arizona has appropriated and deposited into the Community Trust Fund the sum of $3,000,000. Legislation has been introduced in the Arizona legislature to appropriate in this year the sum of $1,500,000 toward that end. The State Senate adopted the Salt River Settlement and Appropriation Bill and it awaits the approval of the State House and the Governor. The other requirements to assure the effectiveness of the Act are currently being undertaken.

We are here today to request that this Committee affirmatively act on the Central Arizona Project appropriation for the 1990 fiscal year budget. Such action by the Congress will assure the timely programming and utilization of the funds necessary to design and construct the Central Arizona Project distribution facilities at the Salt River Pima-Maricopa Indian Community, will reaffirm the mandate of the Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, will spur all others to complete the requirements under the Act and most importantly bring us closer to a final, complete and equitable resolution of a water rights controversy which has lasted since the beginning of this century.

With the full effectiveness of the Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, by the appropriation of all the funds necessary and the execution and approval of all the necessary agreements, the Salt River Pima-Maricopa Indian Community will move into a new era of opportunity. The development of its agricultural lands will provide an agricultural economy for the Community, and a way of protecting, consistent with its cultural heritage, the Salt River Community's reservation as a homeland for its people. The record of the Community is clear. It has the ability to create prosperity by taking control of its destiny. The resolution of the water rights of the Community will enable the Community to exercise more control over its own destiny and create more prosperity for its people.

Thank you.

RILLITO RIVER FLOOD CONTROL PROJECT, ARIZONA

STATEMENT OF FRANK G. CASTRO, DIRECTOR, DEPARTMENT OF TRANSPORTATION AND FLOOD CONTROL DISTRICT, PIMA COUNTY, AZ

Senator DECONCINI. Our next witness will be Frank Castro, director of Pima County Flood Control District.

Mr. Castro, are you here, please? Would you come forward and your full statement will appear in the record; if you would summarize it for us, we would appreciate that.

Mr. CASTRO. Mr. Chairman, members of the subcommittee, I will be very brief; I know you have a very busy day. I am the director of the Pima County Department of Transportation and Flood Control District and I am here testifying today on behalf of the department and the district.

I would like to take this time to thank the subcommittee for its opportunity to present our priorities for fiscal year 1990, and at the same time to express our appreciation for your support of the county's projects in the past.

Pima County has three water resource priority projects; namely, the Corps of Engineers Rillito River project, the Corps' Tucson drainage area study, and the Bureau of Reclamation's Rillito Creek ground water recharge demonstration project.

I will only discuss our top priority today, which is the Rillito project. As you stated, Senator DeConcini, we are also disappointed that the administration did not submit the Rillito project for funding. We are requesting that subcommittee support for the inclusion of $700,000 in the fiscal year 1990 Energy and Water Development Appropriations bill under the Corps of Engineers program for completion of preconstruction engineering and design for the Rillito River flood control project.

The dramatic flash floods that plague our area have caused widespread damages over the last several years to both public and private property. After the 1983 flood, total damages were estimated to have exceeded $10 million, all of which were directly attributable to stream bed degradation and associated bank erosion failure.

To show our commitment, our local costs expended to date, in an effort to stabilize the area and protect public safety after the 1983 floods, have reduced the original total project cost from the authorized $26 million to the existing project cost of $16.5 million. This fiscal year 1990 funding we are now urgently requesting will enable the Corps of Engineers to complete the necessary preconstruction work in anticipation of a new construction start in fiscal year 1991.

PREPARED STATEMENT

Once again, this is our top priority. You have my written testimony and I want to thank you, Mr. Chairman, and the subcommittee for hearing my testimony today.

[The statement follows:]

STATEMENT OF FRANK G. CASTRO

SUMMARY RECOMMENDATIONS

Rillito River Project	$700,000 Preconstruction Engineering and Design
Rillito Creek Groundwater Recharge Demonstration Project	$413,000 Construction
Tucson Drainage Area	$500,000 Survey

I am Frank G. Castro, Director for the Pima County Department of Transportation and Flood Control District and I am testifying here today on behalf of the Pima County Department of Transportation and Flood Control District. I want to take the time to thank the Subcommittee for this opportunity to present our priorities for Fiscal Year 1990, and at the same time to express our appreciation for your support of the County's projects in years past. The County has three water resources priority projects, namely; the Corps of Engineers' Rillito River Project, the Corps' Tucson Drainage Area Study and the Bureau of Reclamation's Rillito Creek Groundwater Recharge Demonstration Project, which we are requesting the Subcommittee's support for in its Energy and Water Development Approprations Bill for Fiscal Year 1990. The following outlines our requests.

Rillito River Project

We are requesting the Subcommittee's support for the inclusion of $700,000 in the Fiscal Year 1990 Energy and Water Development Appropriations Bill under

the Corps of Engineers' program for preconstruction engineering and design for the Rillito River flood control project. This flood damage prevention plan, which consists of soil cement bank protection and grade control structures will stabilize the streambanks thus preventing channel shifts of hundreds of feet and the severe flood-related damages which accompany it. The dramatic flash floods that plague our area have caused widespread damages over the last several years to both public and private property. For example, the floods of March and December 1978 and October 1983 caused extensive damages to structures and land along unprotected banks of the river, and to roads, bridges, utilities and existing bank protection.

The 1983 event was the flood of record, both in terms of magnitude of flow and damages sustained. The U.S. Geological Survey estimated the 29,700 cubic feet per second flow at First Avenue as slightly less than a 50-year-frequency event. Total damages were estimated to have exceeded $10 million, all of which were directly attributable to streambed degradation and associated bank erosion and failure. These type of damages will be prevented once the flood protection works are in place.

At the present time, the Chief's Report on this vital project has been approved by the Assistant Secretary of the Army for Civil Works and it is under review by the Office of Management and Budget. We expect approval of the plan shortly. Mr. Chairman, this is the priority project for the County. Our commitment to this project is evidenced by our willingness to share in the costs of the project in full accordance with Public Law 99-662, the Water Resources Development Act of 1986. In fact, our local costs expended to date in an effort to stabilize the area and protect public safety after the 1983 floods, have reduced the original total project cost from the authorized $26 million to the existing project cost of $16.5 million. This Fiscal Year 1990 funding we are now urgently requesting will enable the Corps to complete the necessary preconstruction work in anticipation of a new construction start in Fiscal Year 1991. Based on the recent Presidentially-declared disasters in our area, we believe the probability of this type of flood occuring before the implementation of the critical flood prevention measures is quite high. Therefore, we ask for your support in advancing this critical plan.

Rillito Creek Groundwater Recharge Demonstration Project

The second priority of the County is the $413,000 in the Bureau of Reclamation's Fiscal Year 1990 budget within the Groundwater Recharge Demonstration Program for continued construction funding for the Rillito Creek project.

This project was one of the twelve selected for first-year construction funding under the Bureau's Groundwater Recharge Demonstration Program and Fiscal Year 1990 funding is needed for its second year of construction. This project was determined by the State to be its number one priority project for this demonstration program, and we are anxious to see it move forward on schedule. The project is the first of its kind to incorporate direct impoundment of stormwater runoff within an unregulated ephemeral stream system located in a region where groundwater is the primary source of public water supply. Because these streamflow and aquifer conditions are typical of the semiarid west, we believe the results of this study will provide rare insight into the potential for similar projects across the west. Groundwater recharge is an exciting opportunity for the State and potentially an element of the total groundwater picture we will be counting on as we work to meet the water supply needs of our future. This funding will allow construction to continue in accordance with the Bureau's schedule.

These three items are priority issues for the County and we appreciate your efforts in considering our needs. We stand ready to answer any questions you may have on these projects.

Tucson Drainage Area Study

The third priority of the County is to support the $500,000 in the Fiscal Year 1990 Corps' budget to begin the survey of the Tucson Drainage Area. The purpose of the Corps' survey is to develop a comprehensive study of stormwater and flooding problems of the Tucson metropolitan area. This Corps' review would complement and be integrated with the City of Tucson's on-going Tucson Stormwater Management Study.

Increasing urbanization in Tucson, the second largest city in Arizona, is rapidly changing the characteristics of runoff conditions and is leaving existing systems for this region inadequate. Floods on many of the mountain streams in the area have caused severe damages on an annual basis to the highways, bridges, public and private properties. In fact, as we have stated earlier, the major flood in October 1983 caused many millions in severe damages to this area. The Federal Emergency Management Agency's reevaluation of the flooding conditions in the aftermath of this trauma indicate that because of changed conditions in the area, the floodplains on the major drainage systems in the City have increased significantly in size.

This Corps' reconnaissance study will help assess the scope of the problem and will identify critically-needed flood control solutions. We ask for the Subcommittee's assistance in ensuring that this $500,000 in survey funding for the Tucson Drainage Area is included in the Fiscal Year 1990 appropriations measure.

Senator DECONCINI. Mr. Castro, thank you very much. We will look carefully at these Rillito River projects. We are—as you know, it has been authorized, the Secretary has signed off on it, and OMB is holding it up. I am still hopeful that the intervention of the delegation, Congressman Colby, Senator McCain, and myself may convince them to let that one out. The other ones we will certainly take every consideration under the budget restraints we have. Thank you very much.

Mr. CASTRO. And I would like to thank you for your intervention. We do have a meeting with them today and, hopefully, we will iron it out.

Senator JOHNSTON. Good; maybe you can do it.

Mr. CASTRO. Thank you.

NATIONAL FISH AND WILDLIFE PROGRAMS

STATEMENT OF R. MAX PETERSON, EXECUTIVE VICE PRESIDENT, INTERNATIONAL ASSOCIATION OF FISH AND WILDLIFE AGENCIES

Senator JOHNSTON [presiding]. Yes. Next, our witness will be Mr. Max Peterson, executive vice president of the International Association of Fish and Wildlife Agencies.

Mr. Peterson, welcome. We are glad to have you back here, even wearing a different hat than you have so ably contributed before. If you would summarize your statement, your full statement will appear in the record due to the shortage of time this morning. We appreciate it.

Mr. PETERSON. Thank you, Mr. Chairman. This is my first opportunity to be here since I took off the Chief of the Forest Service hat and donned that of the executive vice president.

Mr. Chairman, I want to only make about three points, because you have my full statement. The first is that the multipurpose nature of water projects many times has simply not been realized, because the good intentions that went into project formulation and design do not get translated into action.

And it seems to me, when we make a commitment to multipurpose projects that include fish and wildlife values, we ought to be sure that they get realized, because that has been a part of, as you know, the opposition to water projects is the fact that multipurpose values do not, in fact, get realized.

Now, we applaud the Bureau of Reclamation's new emphasis on conservation.

But we are real concerned about the fact that the budget does not seem to pick that up. Very specifically, if the Bureau, we feel, needs at least $1 million to assist in specific water trades and wetlands restoration to support the historic North American waterfowl management plan.

As you know, Mr. Chairman, water fowl has a major problem in Canada, Mexico, and the United States right now because of extended drought. Some very simple things done in connection with water projects could make the difference.

FERC REVIEW OF FISH AND WILDLIFE BENEFITS

A second area of concern that is in my statement has to do with not directly an appropriation item, but something that is of great concern to us, and Congressman Dingell has been involved in it, and that is the fact that the Federal Energy Regulatory Commission is reviewing hundreds of projects that have been in existence for 50 years is supposed to now look again at the question of using the water to help capture some other multipurpose needs.

And frequently, it is only a very small amount of water. In 1986 the Federal Power Act Amendments require the State fish and game agencies and the Fish and Wildlife Service to work with FERC on relicensing. To date, they have not really implemented those provisions.

Again, we think the public's concern for water projects is a proper one and could be met if FERC was instructed to follow the Federal Power Act Amendments of 1986 and specifically include, early in the project relicensing, fish and wildlife concerns. Because, if you do not do studies in connection with relicensing, you simply do not have the information when relicensing comes up to know what to do. I know that personally from having been involved in several relicensing.

PREPARED STATEMENT

You have the rest of my statement, Mr. Chairman, which includes several water projects where we think that specific mitigation and enhancement is possible and should be included. And I know, Mr. Chairman, your personal support for multipurpose development would be supportive of these kinds of activities. We appreciate the opportunity to testify.

Senator JOHNSTON. Thank you, Mr. Peterson. We appreciate your testimony and we will do the best we can with the limited re-

sources this committee has, and your testimony will be very influential, I am sure. Thank you, sir.

Mr. PETERSON. Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF R. MAX PETERSON

The International Association of Fish and Wildlife Agencies, founded in 1902, is a quasi-governmental organization of public agencies charged with the protection and management of North America's fish and wildlife resources. The Association's governmental members include the fish and wildlife agencies of the states, provinces, and federal governments of the U.S., Canada, and Mexico. All 50 states are members. The Association has been a key organization in the promotion of the principles of sound resource management and the strengthening of federal, state, and private cooperation in protecting and managing fish and wildlife and their habitats in the public interest.

BUREAU OF RECLAMATION

The Association appreciates the new emphasis on conservation by the Bureau of Reclamation but is dismayed that the proposed budget contains no new initiatives to implement a more balanced approach to water resource management and development. In fact, the Bureau seems to be backing away from any project not specifically mandated by Congress.

The Bureau's budget needs to be augmented by at least $1 million to assist in facilitating water trades and wetlands restoration demonstration projects in support of the North American Waterfowl Management Plan. This historic agreement between the United States and Canada sets a course of action for both countries to take, through the year 2000, to assure the continued survival of abundant populations of waterfowl, and other fish and wildlife resources. Additionally, Congress should instruct the Bureau to seek out opportunities to assist in the implementation of the North American Plan.

The proposed Bureau budget contains fundings to address anadromous fish restoration on the Trinity River. However, careful review of the proposal is needed to ensure that adequate operations and maintenance funding is provided to improve and monitor river fisheries, as well as capital costs.

The Bureau's Loan Program is used to rehabilitate or expand dams and distribution systems. The Association recommends that consideration be given to funding projects which benefit fish and wildlife.

The San Joaquin Valley Drainage Program is not funded in this budget. The Association recommends this program needs to be reviewed and adequately funded to ensure completion of U.S. Geologic Survey and U.S. Fish and Wildlife Service projects with accompanying recommendations.

The Association recommends that the Bureau operations and management account be increased by $500,000 to fund the Sacramento-San Joaquin Blue Delta Studies Program, particularly in light of the ongoing hearings on water quality and flow standards in California.

The Association recommends that the cap on construction costs of the temperature control curtain for the Shasta Dam be removed. Adequate funding would allow project completion which would create water temperatures appropriate for all salmon runs and would prevent ongoing power losses which in 1988 exceeded $3.8 million.

The Association recommends adding $600,000 to the General Investigation budget, with a 25% local cost share requirement, to study the effects of the Central Valley Project on fish and wildlife of the San Joaquin basin.

The Association recommends that the Bureau's budget provide funding for implementation of the completed study of the Umatilla River Anadromous Fish Program. Implementing the study's recommendations will provide large returns in fisheries for a relatively small investment.

FEDERAL ENERGY REGULATORY COMMISSION

The Federal Energy Regulatory Commission (FERC) proposed FY 1990 budget is $116.5 million, an increase of $7.79 million from FY 1989. The portion of the budget for Hydropower Regulation will increase from $28.3 million to $31.7 million. This increase in funding is partly attributable to the increasing workload with mandated environmental work, including consulting with fish and wildlife agencies as required by the Fish and Wildlife Coordination Act. The Association, however, is concerned that the proposed FERC budget is grossly inadequate to properly integrate the concerns of fish and wildlife management agencies in the licensing review procedures for hydropower projects.

It is estimated that FERC will have to relicense almost 200 projects before the end of 1993. We believe that FERC is woefully underbudgeted and understaffed to handle this workload.

The Association believes that the FERC budget should be increased to allow staff training so the agency will be better qualified to examine the natural resource issues when relicensing nearly 200 projects over the next three years. The FERC needs to augment its staff to ensure the quality of environmental review of each project.

The Association believes that money should be added to FERC so that staff can do on-site inspections of licensing applications. This is imperative to properly assess the unique characteristics of each site and would further allow FERC staff to meet with local and state fish and wildlife agency representatives to discuss opportunities and problems of each individual location.

The Association believes it is time that FERC realize that it is a multi-resource agency because of the mandate to consider fish and wildlife resources in licensing/relicensing. It is a legitimate concern of the public that our Nation's natural resource heritage not be forgotten or under-represented in FERC's Hydropower Regulation activities.

TENNESSEE VALLEY AUTHORITY

The Administration's proposed budget for the Tennessee Valley Authority (TVA) for FY 1990 is $55.8 million, a 6% increase over the Reagan budget of FY 1989. While the proposed budget increases TVA funding, many important TVA programs remain unfunded or underfunded at the proposed spending levels. The Association recommends that TVA be provided $67.76 million to restore funding for the following programs:

The Association recommends that $830,000 be provided to assure continued funding of efforts to modify reservoir releases and to improve access to reservoir recreation facilities.

The Association recommends that $1.48 million be provided to maintain existing aeration sytems at Douglas Dam, and to continue assessment patterns of reservoir use.

The Association recommends that $5.46 million be provided to maintain TVA floodplain management efforts.

The Association recommends that $3.03 million be added to the budget for environmental education, technical assistance, forest resource data base, reservoir recreation areas, and regional air quality maintenance.

The Land Between the Lakes area has experienced severe funding shortfalls in recent years which resulted in campground closures and deferred facility maintenance. The Association recommends that $1.137 million be added to the TVA budget to restore Land Between the Lakes funding.

Nebraska Water Resource Projects

STATEMENT OF J. MICHAEL JESS, DIRECTOR, NEBRASKA DEPARTMENT OF WATER RESOURCES

Senator Johnston. Next, we will hear from Michael Jess, director of Nebraska Department of Water Resources, and we will also ask Clifford Welsh, Nebraska Natural Resource Commission, both of those gentlemen to come forward, please.

Mr. Jess and Mr. Welsh, if you would summarize your statements due to the time constraints, we will include in the record your full statements.

Mr. Jess. Thank you, Mr. Chairman. I am Michael Jess, director of the Nebraska Department of Water Resources. My testimony is on behalf of Governor Orr. I did provide the copies for your record in advance, so I will just highlight what we have to say.

Davis Creek Dam, NE

We, too, of course, are very supportive of completing the North Loup project. You heard the two Senators from my State talk about the Davis Creek Dam which, as we understand, if the administration has its way, will be only some two-thirds finished by the end of the fiscal year, and, in effect, like a house with no roof, a dam that is not completed has virtually no utility. So it needs to be finished.

We understand it will take some $16.7 million to finish it and we urge your appropriation of that and the other money that the administration has recommended for those other aspects of the North Loup project as well.

You also heard about the mitigation proposals for the Missouri River. There are some 475,000 acres of fish and wildlife habitat that were lost when the Government constructed the navigation works on the river. The mitigation proposal, some $3 million to the Corps of Engineers, it is our hope will go some length to restoring some of those important wetlands and backwater areas and various oxbows. There will be other speakers that will detail that in more detail.

Big Papillion Creek channel improvement project is in downtown Omaha. Of course, there are a number of Federal dams for flood

control, but, in this particular stretch, the channel is very constricted. We are asking that, for fiscal 1990, that some $500,000 be appropriated to the Corps which would initiate that work. This is a project that has sound and a great deal of local support. Nearly one-third of the total cost will be paid for by non-Federal participants.

The Elm Creek bank stablilization project, we mentioned in our comments to you, we are asking some $150 million be appropriated to the Corps to take care of some severe erosion, sedimentation problems near Decatur that have been brought on to a large measure, we believe, by the navigation channel in the Missouri River.

The Harlan County Campground has been proposed to be closed down. We understand the Corps believes that there is not sufficient money to keep it in operation. We would urge you to direct the Corps to find that money. To us, it would be like shutting down the elevators in the Washington Monument. It is a facility that is there, it needs to be operated and maintained. In our State, it is one of the more used camping facilities in the State.

Well, there are some other items, some of the study moneys for the Corps of Engineers program. One I want to particularly touch on is section 22. We have asked in the past, and your committee was able, last year, to appropriate some $300,000 for Nebraska. We appreciate that; those funds were well spent. We are asking for a like amount to be expended in Nebraska next year.

PREPARED STATEMENT

There are list of other items that the administration has recommended to your body. I have summarized those for you; we support those as well. Mr. Chairman, if you or your committee have questions, just refer them to me, please.

Senator JOHNSTON. Thank you very much, Mr. Jess.

[The statement follows:]

STATEMENT OF J. MICHAEL JESS

Mr. Chairman and committee members, I am Michael Jess, Director of Water Resources for the state of Nebraska. My testimony is given on behalf of Kay A. Orr, Governor of Nebraska.

My purpose in appearing before you is to urge your support for several water resources projects and investigations needed in my state. In the interest of time, I will detail those where executive branch recommendations are inadequate, where special direction or urging should be given to the federal agencies and a new-start.

1. North Loup Project (Bureau of Reclamation)

Construction of the North Loup Project is nearly two-thirds complete; many of the principle features are in place. Federal officials continue transferring operational responsibilities to a competent district staff. Initial irrigation deliveries were made last summer.

Davis Creek Dam, a key Project component, is now under construction. Considering the counterproductive efforts of the Office of Management and Budget last year, that is no small accomplishment. In overcoming that obstacle, I join many others in lauding your efforts Mr. Chairman and especially those of Mrs. Smith. The funds were ultimately freed and construction began.

Bureau officials estimate Davis Creek Dam will be over half-completed by September 30. Nonetheless, the Administration has recommended no funding for its completion. Like a house with no roof, a half-constructed dam has no value. For fiscal year (FY) 90, we therefore urge appropriations of $16.7 million needed funds and we urge unmistakable Congressional direction be given for completion of the dam.

In addition to Davis Creek Dam, we urge appropriation of $6.03 million as recommended for other Project components. Be assured that local commitments and obligations remain firm. Last year's drought clearly illustrates a national need for projects like North Loup.

2. Missouri River Mitigation (Corps of Engineers)

Few would question the benefits navigation on the Missouri River provides. Since completion of the navigation facilities, bulk grain shipments and other cargo have moved efficiently along the inland waterway.

Despite the well-intended efforts of its designers, inadvertent environmental problems are now apparent. In Iowa, Missouri, Kansas and Nebraska, an estimated 475,000 acres of fish and wildlife habitat have been lost. Jointly, the four states and various local interests (the Papio-Missouri Natural Resources District in my state) have devised innovative plans.

Although some $53.6 million was originally authorized by P.L. 99-662, we recognize national fiscal concerns. Fiscal year 90 funding of $3 million plus direction to the Corps of Engineers (Corps) will permit this new-start. Implementation of key features will restore backwater breeding and rearing areas, riparian wetlands and important oxbows. Speakers following me will provide more details.

3. Big Papillion Creek Channel Improvement (Corps of Engineers)

Flooding problems in the Papillion (Papio) Creek watershed are typical of urban areas across the nation. In Omaha's case, construction of flood control dams has gone far in correcting problems. But, needed channel improvement work is necessary for severely constricted portions of the Big Papio.

Officials from the city, the Papio-Missouri River Natural Resources District, the State and the Corps have devised a solution for the reach between "L" and Center Streets. In FY 90, Stage I calls for appropriation of $500,000 in federal money to the Corps. Local support is evident. Non-federal, cost-sharing contributions are expected to be nearly one-third of the total cost.

4. Elm Creek Bank Stabilization/Flood Control Feasibility Study (Corps of Engineers)

In its conclusion to a recent reconnaissance study, Corps officials identified several solutions to deal with severe, local problems near Decatur.

Although the Corps concluded no federal interest in additional study or construction, several attractive solutions were suggested.

We disagree with the Corps' determination of no federal interest. Federal dams and other facilities on the Missouri River clearly have aggravated the situation. As a result, we urge $150,000 be appropriated for feasibility studies in FY 90.

5. Harlan County Lake Camp Ground (Corps of Engineers)

The Administration's budget proposal contains no recommendation for continuing operation of the public camping facilities at Harlan County Lake. Statistics show it to be one of the most popular and used facilities in my state. Within the funds appropriated to it, I urge your committee direct the Corps to find the means for continuing operation of this needed facility.

Next, I want to discuss ongoing programs administered by the Corps. Some $30 million is recommended to meet needs across the nation under the Section 205 Small Flood Control program. Communities slated for attention in Nebraska are Genoa, Cedar Creek, Inman and Lodgepole. I'm sure any funding reduction would adversely affect those communities and others as well.

Section 22 Planning Assistance is intended to aid states in seeking solutions to water problems. We are indeed grateful for the increase in money earmarked for my state last year. Nearly $300,000 was expended for needed work. Quantification of instream flow needs, preparation of needed public use maps and design of Missouri River backwater areas are examples. A similar expenditure during FY 90, without the proposed non-federal, cost-sharing requirement (which we oppose), will permit further planning and resolution of problems.

Flood Plain Management services under Section 206 have been invaluable to Nebraska. Again, without the proposed non-federal, cost-sharing provision, I urge appropriation of the $206,000 recommended for my state.

Finally, I want to call your attention to several projects and programs recommended to you by the Bush Administration. Nebraska is supportive of them:

Antelope Creek flood survey	$ 10,000
Farwell Unit drain construction	460,000
Gavins Point Dam operation and maintenance	4,125,000
Ground Water Recharge demonstrations	7,300,000
Harlan County Lake operation and maintenance	1,073,000
Missouri National Recreation River construction	620,000
O'Neill Unit investigations	700,000
Papio Project construction	2,000,000
Papio Project operation and maintenance	512,000
Salt Creek and Tributaries operation and maintenance	737,000
Wood River and Grand Island flood survey	62,000

Mr. Chairman, thank you for the opportunity to present Nebraska's testimony. Should questions arise later, direct them to me.

LETTER FROM GOV. KAY A. ORR OF NEBRASKA

Last year's drought illustrated the importance of irrigation to the nation. The North Loup Project is intended to avert the calamity of drought. Nonetheless, conclusion of project construction is in doubt. Davis Creek Dam, a key project component, is expected to be only half completed during fiscal year 89. Presently, no funds are recommended for its completion. Without Congressional appropriation of $16.7 million, construction of the dam will be halted on September 30. Because its completion is essential to the agricultural producers the project will serve, I urge appropriation of needed funds. Congress should also provide clear direction to the Bureau of Reclamation for completion.

NEBRASKA NATURAL RESOURCE PROGRAMS

STATEMENT OF CLIFFORD WELSH, MEMBER, NEBRASKA NATURAL RESOURCES COMMISSION

Senator JOHNSTON. Mr. Welsh, if you would summarize your statement, your full statement will appear in the record.

Mr. WELSH. Mr. Chairman and members of the subcommittee, the Natural Resources Commission has the responsibility to plan, develop, and encourage the implementation of a comprehensive program of resource development, conservation, and utilization of the soil and water resources of the State.

I am representing the 16-member commission that provides direction for this State agency. I thank you for the opportunity to appear before your subcommittee, and the commission does support the testimony presented on behalf of the Governor of the State of Nebraska, Governor Kay Orr.

Since we are a planning agency, my remarks will be centered on the activities of our greatest interest. The Nebraska Natural Re-

sources Commission requests the following appropriations and related actions for the Corps of Engineers and the Bureau of Reclamation.

FLOODPLAIN MANAGEMENT AND TECHNICAL ASSISTANCE PROGRAMS

For section 22 studies, continuation of current appropriation levels and request subcommittee to reject cost-sharing proposals. For floodplain management, continuation at current appropriation level and request subcommittee to reject cost-sharing proposals. And of Corps section 205 program continuation at current level and the Bureau of Reclamation, O'Neill alternative study, provide $700,000 for fiscal year 1990.

Bureau of Reclamation ground water recharge demonstrations in the western States, provide $7.3 million for fiscal year 1990. Department of the Interior, initiate the Ogallala Aquifer research and development program as authorized by the Water Resources Development Act of 1986, provide $13 million for fiscal year 1990.

Corps, initiate the fish and wildlife habitat mitigation in relation with the Missouri River as authorized by the Water Resources Development Act of 1986, provide $3 million for fiscal year 1990. For Bureau of Reclamation, provide $460,000 for the Farwell unit for fiscal year 1990; $6,000,030 for the construction of the North Loup Division for fiscal year 1990, and $16,710,000 to complete the Davis Creek Dam associated with the North Loup Division in fiscal year 1990.

Corps, provide $620,000 for the Missouri National Recreation River for fiscal year 1990; $2 million for the Papillion Creek and tributary lakes construction for fiscal year 1990; $10,000 for the Antelope Creek, Lincoln, NE, survey for fiscal year 1990; $62,000 for the Wood River, Grand Island, NE, survey for fiscal year 1990, and $150,000 for the Elm Creek, Decatur, NE, feasibility study for fiscal year 1990.

While we have not included funding for operation and maintenance for either the Bureau of Reclamation or the Corps of Engineers, we do support the recommended, the funding recommended in the President's budget.

Senator JOHNSTON. Thank you, Mr. Welsh. All those are in the President's budget, I understand; is that correct?

Mr. WELSH. Yes.

Senator JOHNSTON. Yes; thank you very much. I have no further questions.

Does the Senator from Utah have any questions?

Thank you, gentlemen, very much.

[The statement follows:]

STATEMENT OF CLIFFORD WELSH

SUMMARY

The Nebraska Natural Resources Commission requests the following appropriations and related actions for the Corps of Engineers and the Bureau of Reclamation:

- Corps Section 22 studies.
  Continuation at current appropriation level and request subcommittee to reject cost-sharing proposals.
- Corps floodplain management.
  Continuation at current appropriation level and request subcommittee to reject cost-sharing proposals.
- Corps Section 205 program.
  Continuation at current level.
- Bureau of Reclamation, O'Neill Alternatives Study.
  Provide $700,000 for FY 90.
- Bureau of Reclamation, groundwater recharge demonstrations in the western states.
  Provide $7,300,000 for FY 90.
- Department of Interior, initiate the Ogallala Aquifer research and development program as authorized by the Water Resources Development Act of 1986.
  Provide $13,000,000 for FY 90.
- Corps, initiate the fish and wildlife habitat mitigation in relation with the Missouri River as authorized by the Water Resources Development Act of 1986.
  Provide $3,000,000 for FY 90.
- Bureau of Reclamation,
  Provide
  - $460,000 for the Farwell Unit for FY 90.
  - $6,030,000 for the construction of the North Loup Division for FY 90.
  - $16,710,000 to complete the Davis Creek Dam associated with the North Loup Division in FY 90.
- Corps,
  Provide
  - $620,000 for the Missouri National Recreation River for FY 90.
  - $2,000,000 for Papillion Creek and Tributary Lakes construction for FY 90.
  - $10,000 for the Antelope Creek, Lincoln, Nebraska survey for FY 90.
  - $62,000 for the Wood River, Grand Island, Nebraska survey for FY 90.
  - $150,000 for the Elm Creek, Decatur, Nebraska feasibility study for FY 90.

Mr. Chairman, Members of the Subcommittee:

I am Clifford Welsh, a member of the Nebraska Natural Resources Commission. The Natural Resources Commission has the responsibility to plan, develop and encourage the implementation of a comprehensive program of resource development, conservation and utilization of the soil and water resources of the state. I am representing the 16 member Commission that provides direction for this state agency.

I thank you for the opportunity to appear before your subcommittee, and the Commission does support the testimony presented in behalf of the Governor of the State of Nebraska, Governor Kay Orr. In addition, we have included our support for the Ogallala aquifer research and development program. We have not included a statement for the Papio Creek channel project only because we are still reviewing that project for state funding assistance. We have confidence the project will be approved and we have requested state funding to handle the state's share of the non-federal costs.

Since we are a planning agency, my remarks will be centered on the activities of our greatest interest.

First of all, the Administration's proposal includes $2,500,000 for planning assistance to states (section 22 studies). This represents an approximate 50 percent cut from last year's budget. We understand this decrease

has been linked to the proposal to have non-federal sponsors cost-share on a 50-50 matching basis. Our Commission is deeply concerned about this proposal. We have found the Corps of Engineers Section 22 planning assistance program very useful. After a long-standing effort, we finally were able to have Nebraska's funds boosted for this activity. We feel much of the work being done is already on a partnership basis. In fact, state resources are frequently used to match the efforts in these studies.

I would point out that Congress recognized the value of the Section 22 planning assistance program when the authorized funding level for the program was raised from $4,000,000 to $6,000,000 in the Water Resources Development Act of 1986. The cost-sharing reforms of that act were not applied to the section 22 program. We ask that funding continue at the level authorized by the 1986 act.

The Natural Resources Commission also has state responsibility for floodplain management. We have noted that the Administration also proposes that assistance be based upon 50-50 cost-sharing. We urge that the FY 1989 levels be restored and that Congress specifically direct the Corps to offer those services without requiring non-federal matching funds.

The Commission also highly encourages the continued funding of the flood control projects through the Corps of Engineers Section 205 program. We administer the Nebraska Resources Development Fund and are cost-sharing on two of the Nebraska projects at the present time. They are the Pebble Creek project at Scribner, Nebraska and the Lodgepole Creek project at Sidney, Nebraska. At the present time, our staff is reviewing the Platte River, Cedar Creek Project and we will be working with the Corps of Engineers and the local sponsor on that project.

We also have an agreement with the Bureau of Reclamation to assist in the completion of the O'Neill Unit Alternatives Study. We support a $700,000 appropriation for the completion of that activity.

We do not have direct responsibility for the Bureau of Reclamation groundwater recharge demonstration projects in the state. However, we are very supportive of the $7,300,000 appropriation for that activity in the western states. A project at York, Nebraska will be initiated in fiscal year 90 and cost sharing will be provided by the Upper Big Blue Natural Resources District.

In another area of interest, we do support initiating the Ogallala Aquifer research and development program as authorized by the Water Resources Development Act of 1986. The states of Texas, New Mexico, Oklahoma, Kansas, Colorado, Nebraska, Wyoming, and South Dakota have just organized the High Plains Council to initiate a coordinated effort to conduct long-term research and demonstration projects. In Nebraska, we plan to direct our efforts to irrigation management with limited water, toward the development of new irrigation technologies, toward the development of new crop varieties and toward the analysis of economic and environmental impacts of all policy options. We also propose to research drought mitigation options and to improve groundwater data collection and monitoring systems. In addition, this law would provide for demonstration programs of on farm testing of water conserving irrigation technologies and groundwater recharge programs. We support the request for $13,000,000 for the eight states for this activity.

We are also supporting the request for $3,000,000 for fish and wildlife habitat mitigation on the Missouri River as authorized in section 601 of the Water Resources Development Act of 1986. The states of Nebraska, Iowa, Kansas, and Missouri have jointly addressed the lost habitat problem and feel this project as authorized should now be funded. There is also strong local support from the Nebraska Natural Resources Districts adjoining the affected region. This mitigation plan should be recognized as an important new construction start.

The above funding requests reflect the Commission's major areas of interest. The remaining testimony summarizes the following additional projects.

First, under Bureau of Reclamation projects, we support $460,000 for the Farwell Unit and $6,030,000 for North Loup Division construction. In addition, we feel strongly the Davis Creek Dam and reservoir should be completed and request a $16,710,000 appropriation for fiscal year 90 to complete the dam.

Under Corps of Engineers activity, we voice our support for the Missouri River Bank Study and National Recreation Project and support an appropriation of $620,000 for that activity. We also support the Papillion Creek and Tributary Lakes construction for $2,000,000.

We also offer support for the Antelope Creek, Lincoln, Nebraska survey for $10,000, and the Wood River, Grand Island, Nebraska survey for $62,000. We also request a Corps of Engineers Feasibility Study for the Elm Creek, Decatur, Nebraska project. The total cost of this feasibility project would be $300,000. Local sponsors have agreed to provide 50 percent of the cost.

While we have not included funding for operation and maintenance for either the Bureau of Reclamation or the Corps of Engineers, we do support the funding recommended in the President's budget.

Again, thank you for the opportunity to testify.

NORTH LOUP PROJECT, NEBRASKA

STATEMENT OF DONALD E. KILDAY, PRESIDENT, TWIN LOUPS IRRIGATION DISTRICT, AND VICE PRESIDENT, TWIN LOUPS RECLAMATION DISTRICT

PREPARED STATEMENT

Senator JOHNSTON. We will now hear from Donald Kilday, president of the Twin Loups Reclamation District, and Mr. Ron Bishop, if he would join us, too, the manager of Central Platte Natural Resource District. If those two gentlemen would come forward, please.

Mr. Kilday, if you would please start and summarize your testimony, your full statement will appear in the record.

Mr. KILDAY. Senator, I want to thank you for your consideration in the past and I want to submit my testimony for the record.

After 35 years we have put in trying to complete this project, we have felt we have always been treated fairly by your committee. But after leaving here with the support of the Congress, there has always been some other stickler getting in the way that seems to slow the project down.

My own thought is that this project is still important for the economy and the good of the people in our area. And I would think there is surely a better way to select and complete a project in a much shorter time. Now, that is about the end of my statement. I would like to say that we have a good delegation from our State.

[The statements follow:]

JOINT STATEMENT OF TWIN LOUPS RECLAMATION DISTRICT AND TWIN LOUPS IRRIGATION DISTRICT

Mr. Chairman and Members of the Committee:

My name is Donald E. Hughes, President of the Twin Loups Reclamation District, I live in Scotia, Nebraska. With me today is Mr. Donald E. Kilday, President of The Twin Loups Irrigation District and Vice-President of the Twin Loups Reclamation District, Richard Russell, Director of the Twin Loups Reclamation District, Merlyn Schudel, Director of The Twin Loups Irrigation District, Ron Wolf, Manager of the Twin Loups Reclamation District and Michael J. Shaughnessy, Attorney for the Twin Loups Reclamation District. Our group appears here today in support of the continued construction of the North Loup Division, Nebraska Project.

It is my privilege, not only as the President of the Twin Loups Reclamation District, but as a farmer who will benefit from the completion of the North Loup Project, to make this Statement on behalf of the Twin Loups Reclamation District and The Twin Loups Irrigation District.

Mr. Chairman, the Board of Directors of the Twin Loups Reclamation District and The Twin Loups Irrigation District, with all the people in our two Districts, wish again to express our sincere appreciation for your continued support of the North Loup Project over many years. Because there is an effort to restrict funding we believe the Committee and others should understand the percentage of completion of the North Loup Project.

The percentages are based upon funds expended. At the end of Fiscal Year 1988 63.6% of the project was complete.

$$\frac{\text{Spent thru Sept. 30, 1988 (F.Y. 1988)}}{\text{Total Federal Obligations}} = \frac{\$221,647,676}{\$348,610,000} = 63.6\%$$

Estimated spending through September 30, 1989 results in a completion percentage of 69.7%.

$$\frac{\text{Est. Spending thru Sept. 30, 1989 (F.Y. 1989)}}{\text{Total Federal Obligations}} = \frac{\$242,901,676}{\$348,610,000} = 69.7\%$$

By eliminating the estimated cost of deferred facilities (surface

and subsurface drains), which may not be needed, from the total federal obligation, the project will be 73.6% complete by Sept. 30, 1989.

Est. Spending thru 9-30-89 (F.Y.1989) = $242,901,676 = 73.6%
Total Federal Obligations = 348,610,000-$ 18,580,000.
less Cost of Deferred Facilities

The Calamus Dam is complete, and the Reservoir is now filled. The District delivered its first water in June of 1987. In 1988, 7,810 acres of land was irrigated and this year approximately 15,000 acres of land will be irrigated. To give the Committee a better idea of our area, the map behind me shows the Calamus Dam in blue, the red color shows the completed segments of the project, the green color shows the segments under construction and the purple color shows the segment of canals yet to be constructed.

Approximately 163 acres of habitat plantings have been made in the Calamus and Davis Creek Reservoir areas. Three tracts have been purchased, and approximately 312 acres, now in government ownership, have been identified as replacement habitat. Our goal is to effectively mitigate all damage to riparian habitat. By completing all features of the project, wildlife will be enhanced as open canals provide permanent habitat to many species of wildlife.

The Nebraska Game and Parks Commission has completed construction of the recreation facilities around Calamus Dam under a cost sharing agreement providing for 50-50 cost sharing. This has resulted in $570,000 Federal and $570,000 State expenditures under the agreement. In addition, the State used $500,000 from a State Recreation Roads Fund to complete roads in the recreation areas.

The Commission is undertaking the Fish and Wildlife Enhancement (fish stocking and constructing a fish hatchery) agreement which provides for cost sharing. Fish stocking has gone on for four years, and over 6 million fish have already been stocked. The Commission awarded a contract in August 1987 for planning and design development of a fish hatchery at the Calamus

Reservoir. The fish hatchery design is nearing completion. Construction is expected to be finished in 1990.

The Geranium and Mirdan Systems are complete, as shown in red on our map. The Mirdan System is the water supply canal for Davis Creek Dam. This system also recycles tail waters and waste water from the Geranium System for use again from Davis Creek. The Scotia System, as shown in red on our map, is substantially complete. Irrigation service to approximately 33,000 acres is now available. Failure to complete Davis Creek Dam precludes the efficient use of existing features.

The O & M Headquarters Building at Scotia and the caretaker's residence at Calamus Dam are complete. The purchase of O & M equipment is continuing.

Contracts between the United States of America and our District for operation and maintenance during construction and minor construction on completed facilities are in place and have worked well over the past two years. These items are the Bureau of Reclamation's responsibility until the specific feature is formally transferred to the District for operation and maintenance. This arrangement allows the District to start O & M of the project on the "groundfloor" while Federal funding and technical expertise is readily available. Conversely, the government does not have to set up a temporary short term operation and maintenance organization.

A contract for construction of Davis Creek was awarded to Gilbert Central Corporation, Omaha, Nebraska, on September 27, 1988. Due to a mild winter, the contractor is considerably ahead of schedule. It is projected that Davis Creek Dam will be nearly 50 percent complete by September 30, 1989. Except for 240 acres, land acquisition for the entire Davis Reservoir area is complete.

As this committee knows, the Fiscal Year 1989 Appropriation Bill, specifically directs the Secretary of the Interior to construct and complete the Davis Creek Dam Segment of the North Loup Division.

The Fiscal Year 1990 Budget Request of $6,030,000 is based on

discontinuing the project on September 30, 1989, including the Davis Creek Dam currently under construction. This would result in a project of 32,910 irrigable acres rather than the 53,000 acre project authorized by the Congress. No money is budgeted for potential contractor claims for facilities currently under construction or completed. Nearly completed design work on the Fullerton and Elba distribution systems and land acquisition for these systems to serve 20,090 acres would be wasted. Davis Creek Dam would not be completed and Fullerton and Elba Systems, and Kent Diversion Works and Canal would not be completed. Failure to complete the project would cripple the District's ability to operate effectively and to meet its repayment obligations. We estimate that $16,710,000 more than requested in the President's Fiscal Year 1990 Budget Request will be required in Fiscal Year 1990 to continue construction on the Davis Creek Dam and the related Elba and Fullerton Canal Systems. Thus, our total budget request is $22,740,000.

To terminate construction at this point would not be consistent with good management practices nor would it be consistent with our government's promises made over past decades. As Mrs. Smith said in a letter dated March 1, 1989 to Richard Darman, Director of the OMB, "If degree of completion is a major criterion, as Secretary Lujan testified, then the North Loup Division qualifies for continued funding ahead of at least 15 other major Bureau projects.

Thirdly, no American citizen should ever again trust the federal government to keep its word if the contracts and commitments on this project--spanning more than 30 years--are broken. If the government's promises cannot be kept on this one, neither can they be guaranteed on any of the other 11 new constructions starts proposed in the Bush budget for water-resource development."

Mr. Chairman and members of the Committee, we wish to thank you for your continued support.

North Loup Division, Pick-Sloan Missouri Bason Program

List of Statements Supporting
North Loup Division

Statements on Behalf of:

1. Dinsdale Brothers, Inc. by J. A. Dinsdale
2. Kenneth A. Tibbetts
3. John F. Forbes, Jr.
4. John F. Forbes, Sr.
5. Rodney Kent Tibbetts
6. Guy Lamberson
7. Dorothy Kilday
8. Donald E. Kilday
9. Robert Forbes
10. Wynoma Forbes
11. Vern B. Sonderup
12. Nellie E. Forbes
13. N & M, Inc., by Marilyn Sonderup, Sec.-Treasurer
14. Marilyn A. Sonderup
15. Donald P. Kilday
16. Elaine Kilday
17. Errol Wells
18. Chester Wells
19. Francine Rasmussen
20. Robert Rasmussen
21. Lester Wells
22. Garry Wells
23. Louise Wells
24. Robert E. Layher
25. Ralph Spilinek
26. Clinton A. Wells
27. Charlotte Rasmussen
28. Alfred Novotny
29. Evelyn Rasmussen
30. Bryce J. Pearson
31. Floyd Wilson
32. Anthony A. Gregoski
33. Lester L. Jacobsen
34. Mike Nowak
35. Gary Rasmussen
36. John Heiby
37. Carl Anderson
38. Warren Townsend
39. Darold Townsend
40. Glen E. Rasmussen
41. Dale Rasmussen
42. Harold P. Rasmussen
43. Joe Payne
44. Raymond J. Nowak
45. Burt Paulsen
46. Florence Russell
47. Darlene Hansen
48. Cording Cattle Co.
49. Dale Rasmussen
50. Alfred Schubert
51. Alex Kulwicki
52. Enrest F. Anderson, Jr.
53. Bernard H. Kisner
54. Harry Edwards
55. Robert R. Russell
56. David Cunningham
57. Emil Zimmer
58. John T. Zreoski
59. Kathy D. Sonderup
60. Barbara Zimmer
61. Mark V. Sonderup
62. Grace Russell
63. A. L. Russell
64. Kenneth E. Cunningham
65. Mrs. Kenneth Cunningham
66. Patsy Russell
67. Rodney Russell
68. Sandra Sonderup
69. Thomas L. Sonderup
70. Al Weinhof
71. Janet Weinhof
73. Charles Bowman
74. Jay R. Brown
75. Mary Ann Brown
76. Dorothy Ann Cuba
77. Mrs. A. R. Cuba
78. Homer Horn
79. Johuritan Horn
80. Michael S. Uzendowski
81. Wilma M. Russell
82. Richard L. Russell
83. Albert Russell
84. Douglas Russell
85. John H. Russell
86. Matt Cunningham
87. Dan E. Horn
88. Harold E. Stevens
    for Rogolyn Russell

LETTER FROM T. FORBES, LANDOWNER

March 20, 1989

The Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations
Washington, D.C. 20510

Dear Senator Johnston:

I am writing you to express my concern over the President of the United States proposal to stop construction of the North Loup Division in central Nebraska. The President's fiscal year 1990 budget request does not include any funds to continue construction of the irrigation facilities of this project. Moreover, it does not even include funds to complete construction of the Davis Creek Dam, which we are told will be about half done by the end of fiscal year 1989.

Economies are one thing, but this would appear to be waste. The project will be 75 percent complete this year. Water is available to 33,000 acres - 63 percent of the total irrigated area. A contract for construction of Davis Creek Dam was awarded in September 1988, with completion expected in the fall of 1990, if funding continues. Design of the remaining distribution systems is nearing the midpoint. Logic and common sense dictates completion of this project in basic fairness to not only the project sponsors and irrigators who have signed contracts with the Government but also the American taxpayer.

The Administration is determined to stop construction of the North Loup Division as evidenced by the two most recent budget requests. We are looking toward the Congress to assure the course to completion as established by your Committee's years of strong support for this project. Your Committee's past support is sincerely appreciated and is again sorely needed.

Sincerely,

Thomas Forbes
Landowner

LETTER FROM VERN B. SONDERUP, LANDOWNER

March 20, 1989

The Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations
Washington, D.C. 20510

Dear Senator Johnston:

I have been a firm supporter of construction of the North Loup Project for over 40 years. To support development of this project, I have paid the ad valorium tax for the Twin Loups Reclamation

District for 34 years, since its inception in 1954. The project will be 75 percent complete this year. Now the Federal bureaucrats will not support funding to complete this project.

I have the misfortune to live in the lower part of the project, and after 40 years, it is apparently still a "DREAM" to get irrigation water to my farm. Our district has repayment contracts with the Bureau of Reclamation, and these were increased by renegotiation in April of 1987, to assure completion of the project we were told. It appears a basic injustice is unfolding.

Your committee has always been supportive of the North Loup Project in past years, and I am very appreciative of your support. We again need the strong support of the Congress to right this injustice.

Sincerely,

Vern B. Sonderup
Landowner

LETTER FROM MARILYN A. SONDERUP, LANDOWNER

March 20, 1989

The Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations
Washington, D.C. 20510

Dear Senator Johnston:

I would like to thank your committee for the support given to funding the construction of the North Loup Division here in Nebraska. This multipurpose project will be 75 percent complete this year. For the last two years, my friends in the Block I area have had irrigation water available. This summer, water will be available in Block II. Water is now available to about 33,000 acres.

I live in the area known as Block III, the area served by Davis Creek Dam and the Fullerton and Elba Distribution Systems. Irrigation service to our area is in severe jeopardy because the Administration will not support continued funding to complete this project. They even plan to stop construction of Davis Creek Dam virtually in the middle, after awarding a contract just eight months ago. This has to be the epitome of waste - stopping construction in the middle and destroying or abandoning what is already finished.

We need the help of the Congress to keep construction of the North Loup Division on a steady course to completion. It would be senseless to stop construction of this project when it is so near to completion and so strongly supported by Nebraskans.

Sincerely,

Marilyn A. Sonderup
Landowner

LETTER FROM DINSDALE BROTHERS, INC.

March 24, 1989

The Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations
Washington, D.C. 20510

Dear Senator Johnson:

Please accept our gratitude for the continued support you have given the North Loup Diversion here in Nebraska. We are extremely concerned in regard to the final phase which I understand is referred to as Block 111.

My family lives in Block 111 and we are now in the fourth generation of farming and feeding spanning the past 107 years. We have worked for and supported the North Loup Project from its early planning stages.

Block 1 & 2 are now complete and is serving those areas. We feel it would be a terrible waste of government funds to abandon Block 111 where so much has already been invested.

If funds are cut off we will never realize our dream of being part of this project. Thank you for taking time to hear our plea.

Sincerely,

J. A. Dinsdale
Dinsdale Brothers, Inc.

LETTER FROM DONALD P. KILDAY

March 20, 1989

The Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations
Washington, D.C. 20510

Dear Senator Johnston:

I am writing you to express my concern over the President of the United States proposal to stop construction of the North Loup Division in central Nebraska. The President's fiscal year 1990 budget request does not include any funds to continue construction of the irrigation facilities of this project. Moreover, it does not even include funds to complete construction of the Davis Creek Dam, which we are told will be about half done by the end of fiscal year 1989.

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September 1988, with completion expected in the fall of 1990, if funding continues. Design of the remaining distribution systems is nearing the midpoint. Logic and common sense dictates completion of this project in basic fairness to not only the project sponsors and irrigators who have signed contracts with the Government but also the American taxpayer.

The Administration is determined to stop construction of the North Loup Division as evidenced by the two most recent budget requests. We are looking toward the Congress to assure the course to completion as established by your Committee's years of strong support for this project. Your Committee's past support is sincerely appreciated and is again sorely needed.

Sincerely,

Donald P. Kilday

Landowner

LETTER FROM NELLIE E. FORBES, LANDOWNER

March 20, 1989

The Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations
Washington, D.C. 20510

Dear Senator Johnston:

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I have the misfortune to live in the lower part of the project, and after 40 years, it is apparently still a "DREAM" to get irrigation water to my farm. Our district has repayment contracts with the Bureau of Reclamation, and these were increased by renegotiation in April of 1987, to assure completion of the project we were told. It appears a basic injustice is unfolding.

Your committee has always been supportive of the North Loup Project in past years, and I am very appreciative of your support. We again need the strong support of the Congress to right this injustice.

Sincerely,

Nellie E. Forbes

Landowner

LETTER FROM N&M, INC., LANDOWNER

March 20, 1989

The Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations
Washington, D.C. 20510

Dear Senator Johnston:

I am writing you to express my concern over the President of the United States proposal to stop construction of the North Loup Division in central Nebraska. The President's fiscal year 1990 budget request does not include any funds to continue construction of the irrigation facilities of this project. Moreover, it does not even include funds to complete construction of the Davis Creek Dam, which we are told will be about half done by the end of fiscal year 1989.

Economies are one thing, but this would appear to be waste. The project will be 75 percent complete this year. Water is available to 33,000 acres - 63 percent of the total irrigated area. A contract for construction of Davis Creek Dam was awarded in September 1988, with completion expected in the fall of 1990, if funding continues. Design of the remaining distribution systems is nearing the midpoint. Logic and common sense dictates completion of this project in basic fairness to not only the project sponsors and irrigators who have signed contracts with the Government but also the American taxpayer.

The Administration is determined to stop construction of the North Loup Division as evidenced by the two most recent budget requests. We are looking toward the Congress to assure the course to completion as established by your Committee's years of strong support for this project. Your Committee's past support is sincerely appreciated and is again sorely needed.

Sincerely,

N & M, Inc., Marilyn Sonderup, Sec.-Treas
Landowner

STATEMENT OF RON BISHOP, GENERAL MANAGER, CENTRAL PLATTE NATURAL RESOURCE DISTRICT, SOUTH-CENTRAL NEBRASKA

Senator JOHNSTON. Thank you, Mr. Kilday. Your Senators certainly have argued very vociferously on behalf of these projects and the committee will take those into consideration.

Mr. Bishop.

Mr. BISHOP. Mr. Chairman, Senator, my name is Ron Bishop and I am general manager for the Central Platte Natural Resource District in south-central Nebraska. We have submitted testimony on three different projects and if you would include those in the official record, I will——

Senator JOHNSTON. We have all of those statements and I am glad you mentioned that, Mr. Bishop. The statement of each witness will be made part of the record.

Mr. BISHOP. I had tried to summarize very briefly, in the sake of time, those three projects. The first one, we have appeared before this committee for some 7 or 8 years requesting funds and additional funds for a feasibility study for the Prairie Bend Unit there in south-central Nebraska on the Platte River. Because of the efforts of this committee, we have been successful in getting those funds and the Bureau of Reclamation has now completed that feasibility study.

It is in the process of being reviewed now by the regional and Denver office, and so our priorities on that project for this fiscal 1990 are getting that review process completed and, hopefully, getting authorization. We intend and sincerely hope to be back before this committee next year requesting final design funds for an authorized project, and we would hope that the individual committee members would help us realize that dream that we have worked on so long there in central Nebraska.

The other two projects, one of the them is the High Plains ground water recharge demonstration project. We feel that is very important to the entire western United States. Twenty-one projects have been authorized by Congress for research and demonstration in the western United States, and we think that ground water recharge has a very important role in resolving many of the water problems that we see in our State and many of the other States see, and so we would urge your support for the $7-plus million that are in the budget in the President's proposal, so that that project can get on.

And the third and final project, then, is the, a study being conducted by the U.S. Army Corps of Engineers within our natural resource district; it is a study on the Wood River at Grand Island, NE. That feasibility study is underway. The President has included in his budget recommendations $62,000 to continue that study.

PREPARED STATEMENT

And our natural resource district, along with some of the communities and counties in that area, are putting up half of the cost of that feasibility study, and we have our money in hand, and so I would hope this committee would see that those funds stay in there

so that we can get on with resolving those flood problems. I thank you for your time.

Senator JOHNSTON. Thank you, Mr. Bishop. And thank Senator Exon and Senator Kerrey, you made it very clear the priorities that you have reemphasized, and the committee will certainly keep that in mind as we proceed with the markups.

Does the Senator from Utah have any questions? Thank you, gentlemen.

I am going to thank in advance Senator Garn for chairing the committee for the balance of the public witnesses today, and thank you, Senator Garn.

[The statement follows:]

STATEMENT OF CENTRAL PLATTE NATURAL RESOURCES DISTRICT

REQUEST: $7,323,000.00 for fiscal 1990

PURPOSE: Construction

PROJECT: 21 Groundwater Recharge Demonstration Projects (PL-98-434)

LOCATION Western States of U.S.A.

PROJECT PURPOSE: Research and demonstration of groundwater recharge for irrigation, stabilization of ground water levels, enhancement of groundwater quality, small community and rural domestic water supplies, and other purposes.

Mr. Chairman....Committee Members:

My name is Ron Bishop and I am General Manager for the Central Platte Natural Resources District. Our Central Platte Natural Resources District covers part or all of the ten counties in south central Nebraska that encompass the Platte River and its drainage areas along a 175 mile stretch extending from Gothenburg, Nebraska on the west to Columbus, Nebraska on the east.

Groundwater plays a critical role in the economic well-being of our District as well as our State. Within our District alone we have over 700,000 acres of cropland irrigated with groundwater. In addition, each of the 120,000 residents of our District rely upon groundwater for their drinking water supply.

The groundwater levels, however, have been declining causing an increase in pumping costs and an accompanying reduction in well production. The current groundwater level declines are predicted to increase over the next twenty to thirty-five years to the point where thousands of irrigated acres will revert to dryland without some kind of a supplemental supply project.

Additionally, groundwater quality problems have developed in the eastern half of our District to the point where a number of municipalities have had to abandon wells because the nitrate levels exceeded the U.S. Public Health Service's published maximum safe level for human consumption.

These and similar problems are not uncommon in Nebraska nor for that matter, across the western United States. We, therefore, are very much interested in the groundwater recharge demonstration program outlined in PL98-434. The research and demonstration of groundwater recharge techniques for irrigation, stabilization of groundwater levels, enhancement of groundwater quality, small community and rural domestic water supplies as well as other purposes is a worthwhile activity if we are to address the growing groundwater problems of the western United States. We, therefore, strongly support and concur with the administration's proposal for the inclusion of $7,323,000.00 in the fiscal 1990 budget for the Bureau of Reclamation's Groundwater Recharge Demonstration Program

(PL98-434) including the funds for the three new sites currently being selected.

We would like to request your support and assistance in seeing that these funds remain in the budget.

Thank you.

REQUEST: $62,000.00 for fiscal 1990

PURPOSE: Feasibility Study by U.S. Army Corps of Engineers

PROJECT: Flood Control for Wood River and Upper Warm Slough at Grand Island, Nebraska

LOCATION Hall and Merrick Counties in Nebraska

PROJECT PURPOSE: Flood Control

Mr. Chairman....Committee Members:

My name is Ron Bishop and I am General Manager for the Central Platte Natural Resources District. Our Central Platte Natural Resources District covers part or all of the ten counties in south central Nebraska that encompass the Platte River and its drainage areas along a 175 mile stretch extending from Gothenburg, Nebraska on the west to Columbus, Nebraska on the east.

Several areas within our Natural Resources District are subject to severe flooding. One such area is the City of Grand Island in which approximately 30 percent of our District's population resides. Flooding from the Wood River in the Grand Island area occurs about every two years. The 1967 Wood River flood caused an estimated $12,500,000 damage in Grand Island according to the U. S. Army Corps of Engineers.

The Corps recently completed a reconnaissance study that identified a potentially feasible solution to the flooding problems on the Wood River and associated drainages in Grand island. The possible solution would consist of a diversion channel to divert flood waters from the Wood River away from the City of Grand Island and then release it into the Platte River. This plan would protect Grand Island from a one hundred year flood event on the Wood River.

The plan would cost $4,727,000.00, provide $1,995,500.00 in annual benefits and have a benefit-cost ratio of 5.4 to 1. In Grand Island the plan would reduce flood damages to over 1300 structures in the 500 year flood plain and would reduce average annual flood damages by 95%. The plan would also reduce flooding to thousands of acres of agricultural lands downstream from Grand Island.

We are most anxious to see a project constructed that will resolve the flooding problems in Grand Island and therefore, strongly support the $62,000.00 included in the administration's budget for the U.S. Army Corps of Engineer's Wood River flood survey at Grand Island and would like to request your support and assistance in seeing that those funds remain in the budget.

Thank you.

REQUEST: Support for Authorization

PURPOSE: Preparation for Final Design and Construction

PROJECT: Prairie Bend Unit Water Resources Project

LOCATION Dawson, Buffalo and Hall Counties in Nebraska

PROJECT PURPOSE: Irrigation, stabilization of ground water levels, enhancement of water quality, small community and rural domestic water supplies, fish and wildlife habitat, flood control, public outdoor recreation and other purposes determined to be appropriate.

Mr. Chairman....Committee Members:

My name is Ron Bishop and I am General Manager for the Central Platte Natural Resources District. Our Central Platte Natural Resources District covers part or all of the ten counties in south central Nebraska that encompass the Platte River and its drainage areas along a 175 mile stretch extending from Gothenburg, Nebraska on the west to Columbus, Nebraska on the east.

A number of serious problems and critical needs relating to water exist within our Natural Resources District area. The economy of the area and the well-being of the people residing therein is dependent on irrigated agriculture with the primary source of irrigation water being ground water.

The ground water levels, however, have been declining, causing an increase in pumping costs and an accompanying reduction in well production. The current ground water level declines of up to 25 feet are predicted to increase over the next 20 to 35 years to the point where thousands of irrigated acres will revert to dry-land without some kind of a supplemental supply project.

Additionally, each and every one of the over one hundred thousand residents within our Natural Resources District gets their drinking water supply from ground water but ground water quality problems have developed in the eastern half of our District to the point where a number of municipalities have had to abandon wells because the nitrate levels exceeded the U. S. Public Health Service's published maximum safe level for human consumption.

The area is also subject to infrequent but severe flooding. The single flood event of June 1967 caused over $30,000,000.00 worth of damage in the eastern half of our Natural Resources District alone.

In addition to those three major problems there are also some needs related to water within our area.

First of all, there is a need to maintain adequate water supplies for the waterfowl, fish and wildlife that currently utilize the area. The Big Bend area of the Platte River Basin in Nebraska plays host to several million migratory waterfowl each and every year.

There is also a need within our area for water based recreation facilities for our residents and the other residents of central Nebraska.

Senator James Exon, the late Senator Edward Zorinsky, Congresswoman Virginia Smith and our Natural Resources District along with several other agencies, organizations, groups, associations and individuals have been working for a number of years toward getting a water resources project implemented in the area that would resolve those problems and address those needs.

Thanks to the foresight of this committee we were successful in getting the necessary authorization and funding to enable the U.S. Bureau of Reclamation to conduct a feasibility study on the project area and develop a plan to address the many problems.

To help reduce the Federal expenditure, our Central Platte Natural Resources District transferred $240,000.00 in cash to the Bureau of Reclamation for the feasibility study efforts. In addition to the cost-share funds, there has been an even larger amount provided in in-kind services in the form of research, studies and data collection. These in-kind services have been provided not only by our Natural Resources District and the local sponsors, but also by State of Nebraska agencies and other interested groups.

An example of the in-kind services, research and studies that have been useful in developing the plan and conducting the feasibility study are the seven items listed below that were conducted by our Natural Resources District:

(1) Water Quality Studies. The water quality studies and programs that have already been conducted will be beneficial to the planning of the water resources project as it relates to identification of water quality problem area, extent of the problem and effective methods of improving the ground water quality.

The local people, through our Central Platte Natural Resources District, have provided over $400,000.00 in cash toward those studies to date, in addition to the hundreds of man hours involved.

The additional funding by the State of Nebraska toward those studies has been approximately equal to the $400,000.00 local contribution.

(2) Ground Water Model. Our Central Platte Natural Resources District and the Lower Loup Natural Resources District, which borders us on the north, under contract with the U.S. Geological Survey, has developed a detailed ground water flow model of the ground water basin lying between the Loups and Platte River from the Lincoln-Dawson County line eastward, which encompasses the proposed project area.

The approximate cost of this ground water flow model is $120,000.00 with the cost being shared on an approximate 50-50 basis between U.S. Geological Survey and the districts.

The ground water model was available as a planning tool in evaluating the various alternatives available for the water resources project.

(3) Study of Engineering Alternatives. Our Natural Resources District contracted with the Denver, Colorado office of the engineering firm of CH2M Hall to look at various project alternatives available to the local people. One set of alternatives the firm evaluated was the physical or engineering alternatives available to address the water supply needs of the project area.

(4) Study of Financial Options. Another set of alternatives evaluated by CH2M Hill firm were the options available to the local people for financing or assisting in the financing of the water resources program.

(5) Study of Institutional Options. The third set of alternatives evaluated by CH2M Hill for the District were the options available to the local people for establishing an organization to develop, manage and operate a water resources program.

The studies by the private firm of the engineering alternatives along with the study of the financial and institutional options was done under contract to, and paid for by, the Natural Resources District at a cost of approximately $35,000.00.

(6) Hydrologic and Water Resources Investigation. The engineering firm of Henningson, Durham and Richardson from Omaha, Nebraska conducted an investigation of the water availability in the Platte River and the preliminary water needs of the proposed project area. The investigation and studies by Henningson, Durham and Richardson were done under contract to, and paid for by, local interests at a cost of approximately $23,000.00.

(7) Ground Water Declines And Increased Pumping Costs. The Central Platte Natural Resources District conducted an investigation of declines and increased pumping costs in the two level aquifer area of the Prairie Bend Project. The investigation was conducted by staff of the Natural Resources District at an estimated cost of $15,000.00.

All of the data from these studies and the other studies conducted by, or with assistance of other groups, enabled the Bureau of Reclamation to progress to the point where the Bureau's District office in Grand Island, Nebraska has now completed the feasibility study and sent it forward for review. The plan that the Bureau has developed for the Prairie Bend Unit is physically, economically and environmentally feasible and will provide not only the means to resolve the water problems within the Prairie Bend area, but would also provide the means by which to resolve the fish, wildlife and environmental concerns on the Platte River.

We will be working closely with our Congressional Delegation and hope to have legislation introduced and passed that would authorize this very important multi-purpose project yet this year.

With the review and authorization process being our priority for the next several months, we are not requesting any additional funds for the Fiscal 1990 budget. We would instead hope that each of you would lend whatever support you could to help us and our Congressional

Delegation see that this project is authorized during the next few months so that we can get on with the final design and get ready for construction.

It is our sincere hope and intent to appear before this Committee one year from now requesting funding for advanced planning and final design on an authorized Prairie Bend Unit.

STATEMENT OF RON HARGENS

REQUEST:	Support for Authorization
PURPOSE:	Preparation for Final Design and Construction
PROJECT:	Prairie Bend Unit Water Resources Project
LOCATION	Dawson, Buffalo and Hall Counties in Nebraska
PROJECT PURPOSE:	Irrigation, stabilization of ground water levels, enhancement of water quality, small community and rural domestic water supplies, fish and wildlife habitat, flood control, public outdoor recreation and other purposes determined to be appropriate.

Mr. Chairman....Committee Members:

I farm between Cairo and Wood River in the approximate center of the Prairie Bend area. I am 41 years old and have always lived in this area and have farmed for 23 years for myself.

In that time period I have seen the shallow wells go dry, being replaced by deep wells, tripling the horsepower requirements for irrigation water. On the land I farm there have been six irrigation wells abandoned for lack of production. Replacement wells were drilled at a greater depth to sustain irrigation.

According to the Bureau of Reclamation studies, and other studies done by private engineering firms, it is shown that in parts of the Prairie Bend area the aquifer life to sustain irrigation is 25 years or less.

In the same period the nitrate levels of some of our wells have increased to up to 30 parts per million. This is three times the level for quality standard safe drinking water.

To solve some of our problems, the Central Nebraska Conservation Association (Prairie Bend) was formed by a group of farmers and landowners from the Cairo, Wood River and Shelton area in western Hall and eastern Buffalo Counties in Nebraska. The purpose of the organization is to develop an irrigation and ground water recharge project to combat declining water tables and well production in much of the area.

To do this we filed a water right application in March of 1976 with the State of Nebraska to divert, store and use Platte River water. In October, 1976 we went to the Central Platte Natural Resources District, a local government subdivision, to ask them to assist us in securing a feasibility study. The Board of Directors unanimously decided to help us because of the existing and future water problems. Together we began seeking assistance from the Bureau of Reclamation to have them do a feasibility study of the area.

Our Nebraska delegation secured authorization and funding approval in both the House and the Senate for the feasibility study in 1983 and the study has been completed. The Central Platte Natural Resources District has provided to the Bureau of Reclamation $240,000.00 to help fund the feasibility study and additional financial support is being offered from the Central Nebraska Conservation Association.

The Bureau of Reclamation feasibility study, being completed, shows that there is a very valuable and feasible project to be developed in the area. The project would be mainly to stabilize stream flows in the Platte River for the endangered Whooping Crane, Bald Eagle, Least Terns and Piping Plover. It would also provide ground water recharge for the farm economy and tend to reduce nitrate levels of our drinking water.

The project is being supported by several area groups and organizations: the Hall County Board of Supervisors, Buffalo County Board of Supervisors, Kearney Chamber of Commerce, Grand Island Chamber of Commerce, City of Grand Island, the towns of Cairo, Shelton and Wood River, Central Platte Natural Resources District, Central Nebraska Conservation Association, and the Whooping Crane Habitat Maintenance Trust. The Central Platte NRD also conducted a public opinion poll by mail and of those who had an opinion, 85 percent were in favor.

With this amount of State and local support, and the existing and future water problems of water quality and supply, I feel it is of utmost importance that the effort be continue into advanced planning and construction.

Therefore, I am submitting this testimony to request your support for authorization of the Prairie Bend Project so the project can be moved ahead to be used to solve many of the existing and future water problems in our area.

STATEMENT OF DOUG THOMPSON

Mr. Chairman....Committee Members:

I submit this testimony to the committee in regard to the authorization of the Prairie Bend Project. Your support of the project in the past has been greatly appreciated.

Although the original project was conceived and promoted by irrigators in the area, Congress approved the initial study to encompass not only irrigation, but groundwater quality problems, domestic water supplies, flood control, outdoor recreation, and fish and wildlife habitat.

Since the project will withdraw a small portion of the flows from the Platte River in the "critical habitat" area of the endangered whooping crane (and several other "threatened species"), a very disproportionate

amount of the funds appropriated have been used by the Bureau of Reclamation for a thorough and complete study of optimum wildlife flows and roosting area. Consequently, the Bureau's "preferred plan" (alternative 13) includes several large tracts on the Platte to be set aside and managed strictly for habitat of the endangered whooping crane.

We, the project proponents, feel this is appropriate and commend the Bureau for its efforts to make this project a totally new concept in that it would not only solve the water shortage problems of the area, but would also enhance the habitat of an endangered species.

Another new concept of the project is that it will supply irrigation water strictly through recharge of the aquifer, rather than conventional surface delivery. This plan is totally compatible since the area to be serviced is essentially all Class I, prime farmland, already irrigated by groundwater pumps.

As a third generation farmer in western Hall County, I have witnessed (and been party to) the irrigation boom, which has turned dryland, subsistent type economy into one of the most productive agricultural areas of the world. During this era, the farmers and businesses of the community have flourished because of two precious resources - our vast underground water and prime farmland. Unfortunately, I have also witnessed the decline of rural communities resulting from the current farm economic situation. The final and devastating blow will come if we lose our water supply. We farm in a semi-arid area; our prime land is of little value without water to make it flourish.

My pumping costs have already nearly tripled in the last twenty years, not withstanding pump replacement costs of $15,000 - $17,000 each. These pumping and replacement costs are again compounded in that the yield of the wells has steadily declined by 50 to 60 percent.

The future of my family and neighbors will hinge upon your decision. Please give it your utmost consideration.

STATEMENT OF MARVIN J. RICKERT

Mr. Chairman.....Committee Members:

I, Marvin Rickert, being a farmer who has lived in the Prairie Bend water project area my whole life and having farmed over 30 years in this area, realize the water declines and the need of a water project.

I am asking for your support for the authorization of the Prairie Bend Water Project.

I want to thank you for your support in the past and for your future support in solving our water problems.

STATEMENT OF ROD GANGWISH

Mr. Chairman....Committee Members:

I would like to take this opportunity to submit written testimony in support of the authorization for the Prairie Bend Project being planned by the Bureau of Reclamation.

I am a landowner and live two and a quarter miles south, and two and a quarter miles west of Shelton, Nebraska, within the boundaries of the proposed Prairie Bend Unit and am actively engaged in a farming partnership with my brother.

I wish to convey to you a growing concern on the part of myself and my neighbors about the future of irrigated agriculture in our area.

We have ground water declines of 15 to 25 feet in the area with a significant decrease in well production. In most areas of the northern part of the Prairie Bend Unit, the top water Pleistocene formation has been depleted. Some of these shallow wells in the northern reaches of the area that were yielding 700 to 800 gallons per minute 10 years ago and now yield less than 150 gallons per minute. These shallow wells have been replaced with deep wells drilled into the Ogallala aquifer. The problem is that in some areas the Ogallala formation either does not exist or is not that productive and is yielding only 400 gallons per minute.

The land we farm that lies close to the Platte River (within two to four miles) also has no deep water Ogallala aquifer. The wells on this land have decreased up to 25 percent in output over the last 15 to 20 years.
This trend is alarming to me, and when we take into account the projections of ground water models and studies, such as the Platte River Basin Level B Study conducted by the Missouri River Basin Commission, our future for sustained irrigated agriculture is in serious jeopardy.

In addition, there are water quality problems. All of the rural residents and towns in the area get their drinking water from ground water. Several communities have problems because their nitrate content is above the Public Health Service's recommended maximum. I had to replace my house well a few years ago because it was yielding water with this same problem.

Flooding is another problem and, although not frequent, can cause a great deal of damage. There was in excess of $30,000,000.00 damage in the 1967 flood between Kearney and Columbus, much of which was in the proposed project area.

I feel the mood of the people in our rural area and in the surrounding communities of Grand Island and Kearney, has changed to the point that they are ready to face up to these challenges. We envision a project that would not only supplement irrigated water supply, stabilize ground water levels and enhance ground water quality, but would enhance municipal and rural domestic water supplies and provide fish and wildlife habitat, instream flows, public outdoor recreation and flood control. One or more of these facets of the project would appeal to every citizen of our area in addition to stabilizing the economy of irrigated agriculture.

These are some of the reasons for the strong base of support the project has throughout the valley. As you can see, we are not talking about a single purpose irrigation project, but a multi-purpose water resources project that would address all of these needs and more.

My neighbors and I support this type of project which will meet the needs for our future in irrigated agriculture. If we do not have solutions to these challenges, we will be faced with turning irrigated acres back to dry land.
Mr. Chairman, I urge you to support authorization of the Prairie Bend Project which is a solution to our existing and future water problems in this area.

STATEMENT OF MARVIN KUBERT

Mr. Chairman.....Committee Members

I, Marvin Kubert, manager of Fairbanks Irrigation, am involved inthe water well industry of the Prairie Bend water project area. I have witnessed the fluctuation and declines of the water table in this area and recognize the urgent need of this project.

I am asking for your support for authorization of the Prairie Bend Water Project.

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Senator JOHNSTON. The subcommittee has received numerous additional prepared statements regarding projects in Nebraska. Without objection, those will be incorporated in the record at this point.

[The statementd follow:]

STATEMENT OF NORTH CENTRAL NEBRASKA RECLAMATION DISTRICT

Thank you, Mr. Chairman, and members of this distinguished Appropriations Subcommittee on Energy and Water Development, for the opportunity to present testimony on behalf of the North Central Nebraska Reclamation District as sponsors of the modified O'Neill Unit, Pick-Sloan Missouri Basin Development Program. We appreciate the support you have given us since 1974.

We are testifying in support of the President's request of $700,000 for continuing the groundwater recharge verification study, which, we understand, is vital to completion of the very complex study of the still experimental groundwater recharge/recovery concept specified in legislation pending for this project.

As this Subcommittee knows from Bureau of Reclamation testimony, the preconstruction studies are being conducted under a memorandum of understanding between the Bureau and the Nebraska Natural Resources Commission. The Bureau of Reclamation has conducted geological investigations and aquifier performance tests to define and evaluate specific sites as a groundwater source in the Niobrara River Valley. The U.S. Geological Survey is collecting groundwater quality data through an interagency agreement with Reclamation.

We wish to make it penetratingly clear that we still prefer the original, tried-and-true, fully tested, presently authorized project. As the Subcommittee knows, the original project, first authorized in 1954 and reauthorized in 1972, was a middle-sized, conventional, multipurpose reclamation project.

We have had to alter our position because it became clear in 1983 that the decades-long consensus for the project could no longer support it as long as the Norden Dam remained a major feature.

Accordingly, we reluctantly accepted a federally directed but state-led study of a well-field/groundwater-recharge alternative. The study was completed Janaury 31, 1985, recommending that the Norden Dam and reservoir be eliminated from the project. Instead, the O'Neill Unit would be based on the groundwater-recharge alternative.

Legislation that would authorize this transformation was introduced in both House and the Senate in the Ninety-ninth and One Hundredth Congresses. One January 3, 1989, Congresswoman Smith introduced the proposed legislation in the One Hundred First Congress as HR 367.

In the previous Congresses the bills were stalled by a host of unresolved water policy and economic issues affecting all water projects throughout the United States. But the main problem was that of grain surpluses that generally existed in many countries besides our own and resistance to any project that would add food-producing capability to our agricultural sector.

As we all know, federal water budgets continue to be under intense budget pressure as the increasingly urbanized Congress searches for ways to reduce the deficit and balance the budget. Nevertheless, it is important, as always for water planners to take a long look at the future. And we think the long-term future is brighter for Nebraska than for many other states.

Water and agriculture are two of the most valuable resources a nation can have. The O'Neill Unit is a viable project that can provide for the future of both for the benefit of this country. The O'Neill Unit would be based on the still-experimental concept known as "artificial groundwater recharge" - a concept observed working in nature and as an accidental phenomenon accompanying other irrigation projects but never subjected to testing in any major water project.

The O'Neill Unit would furnish that first, large-scale test of the concept, perceived by preservationists and others as the best alternative to conventional dams and reservoirs as a means of collecting, storing, and reusing water. At least in theory, artificial groundwater recharge

structures would be less damaging to the environment and less expensive to water users and taxpayers.

After installation of 1,000 feet of perforated pipe at the O'Neill Unit, a pump produced 1800 gallons per minute after a week, leveling off at 900 gallons per minute. This is an excellent flow and, although official results of the tests are not fully evaluated, preliminary data are encouraging that the artificial recharge concept will work.

Water from the O'Neill Unit can be used for agricultural purposes. Concern has been expressed that the water will be used to grow "surplus crops". This has been a short term view of agricultural conditions.

Nobody has been able to predict grain surpluses. As a result of the North American drought, grain surpluses have declined more rapidly in the last 6 months that ever before. The U.S. Department of Agriculture is predicting that U.S. grain stocks will be drawn down an unprecedented 95 million tons during this marketing year, from 169 million tons at the start of the year to 74 million tons at the end of the year. Grain stocks in other countries will also be reduced this year by about 23 million tons, so global stock drawdown will total 118 million tons.

These lower supplies, have enabled the Department of Agriculture to scale back acreage reduction program for 1989 crops. The area of corn plantings could be up 6-9 million and planted acreage could increase by about 25 million acres this year.

American agriculture must continue to produce food supplies for not only itself, but as the major contributor to world food supplies. Changes have already taken place on the lands that would be served with water from the O'Neill Unit. Edible beans have been grown. Substantial amounts of land are being purchased for potential growing of potatoes and the possibility is very good for a major processing plant. These are only two of many food supplies that are needed and can only be obtained through agriculture and can only be sustained with reliable water supplies. Water can only be saved by proper preservation and use, such as the O'Neill Unit. We must look at least fifty years down the road to plan water use.

Constant struggles have existed between domestic water users due to the ever-increasing need. States are fighting for the right to block and use river water before it enters another state. Landowners are now selling water rights to the highest bidder without any concern for the depletion of the water sources. This is not how our nation's water should be handled.

Years ago money was spent to build dams for flood control. The main benefactors for this were urban areas. Untold dollars and lives have been saved. Now that flooding has been brought under control, there is no reason to stop investing in the future of our nation's water. Projects for water source recharge are vital for our cities to maintain dependable and constant supplies.

Mr. Chairman, we traveled 1,700 miles for this opportunity to present our testimony. Even though the authorized project has had to be drastically reformulated, the sponsors of the O'Neill Unit continue to be enthusiastic about the project and the need to develop new technology to deal with water.

We request your continued funding for the O'Neill Unit to provide this nation with continued technology on water preservation and use which is so desperately needed.

We would be glad to answer the Subcommittee's questions about the area and its people.

STATEMENT OF CEDAR VALLEY RECLAMATION DISTRICT

Dear Mr. Chairman and Members of the Committee:

My name is Michael J. Shaughnessy of St. Paul, Nebraska. I am an attorney, and I represent the Cedar Valley Reclamation District. I present to you this statement as written testimony on behalf of the Cedar Valley Reclamation District.

With me today is Lee Sonderup, President of the Cedar Valley Reclamation District, James Vanderloop, Sr., Secretary-Treasurer of the Cedar Valley Reclamation District, Lewis Adams, Director of the Cedar Valley Reclamation District, Curtis Peterson, Director of the Cedar Valley Reclamation District and Roger Hellbusch, Director of the Cedar Valley Reclamation District.

The Loup River Basin Water Management Study was initiated by the signing of a Memorandum of Understanding (MOU) with the Cedar Valley Reclamation District (CVRD), the State of Nebraska, and the Bureau of Reclamation on July 6, 1987. The five-year study is a comprehensive investigation of the water, land, and ecological resources of the Loup River Basin. The first three years of the study were dedicated to the Cedar River Basin including a reevaluation of the Cedar Rapids Project. The MOU shows that the CRVD will cost share with $10,000 for each of the first three years of the study, and the State of Nebraska will cost share with in-kind services worth $862,000 with the Federal study costs worth $730,000. Bureau of Reclamation budget constraints will allow completion of the Cedar portion of the investigation.

Work accomplished to date includes updating Cedar River flow records, land use data, and Cedar Rapids Project costs. Public meetings were held at Spalding and Fullerton, Nebraska, to obtain public input on needs and desires of Cedar River Basin residents. These meetings were helpful in educating the public concerning their needs and resources in their river basin. Other entities such as Nebraska Public Power District, the U.S. Soil Conservation Service, and the Nebraska Extension Service were contacted about needs in the basin as well. The U.S. Fish and Wildlife Service prepared a Planning Aid Report that describes existing fish and wildlife resources in the Cedar River Basin and opportunities for preserving and enhancing those resources. No threatened or endangered species were noted in the

report. Bald Eagles have been sighted on the Cedar River. A service agreement to conduct engineering, economic, and hydrologic analysis on alternatives to the Cedar Rapids Project features has been submitted to Reclamation's Denver Office. U.S. Fish and Wildlife Service will evaluate any alternatives that will be developed.

Since there is no funding in the budget for fiscal year 1990 the Loup Basin Study will not be completed as originally outlined. The Cedar River Basin portion of the study will need to be extended into fiscal year 1990 to allow ample time to study alternatives to the Cedar Rapids Project. The Cedar River Basin report is scheduled for completion in December, 1989. Then, the District intends to ask for feasibility study funds to examine the promising alternatives proposed.

Total expenditures by Reclamation through fiscal year 1988 were $198,300. The fiscal year 1989 program is $110,000, including $10,000 cash contibution from CVRD. Reclamation's Denver Office is scheduled to receive $75,000 of the fiscal year 1989 funds to complete analyses of alternatives.

We believe that the leadership of the members of various districts is important to bring to the attention of this Committee and others the necessity of continued planning toward a wise and efficient use of our water resources. As an example, the Cedar River which originates in the Sandhills of Nebraska, is a water resource, the use of which for irrigation and wildlife enhancement is only one example of the vast supply available to our Citizens.

Various alternatives discussed for the use of this resource are a pumping plant from the Cedar River to an off stream storage reservoir for use during dry summer months, a reservoir on Beaver Creek at Loretto for delivery of water to the Cedar River Basin and the Skeedee Creek area for irrigation, a low head hydro electric power generation plant, utilizing the Timber Creek drainage for offstream storage to augment the flow of the Cedar River for irrigation and wildlife uses and finally surface storage areas to recharge the ground water acquifer throughout the basin.

Coordination meetings and activities to coordinate data gathering and analysis and to update the sponsors on the study's progress have

been held with the 3 study partners. Data gathering and analysis has started on determining water supply and availability; studying management alternatives for water, land and ecological resources; and identifying the most economical and socially acceptable management alternatives for those resources. The cost estimates for the Cedar Rapids Project have been updated and hydrologic and land use data has been updated from Nebraska Natural Resource Commission and Soil Conservation Service data in Nebraska's date bank. Existing and potential water supply and quality problems and alternative solutions will be analyzed and displayed.

We wish to thank the Committee for its continued support.

Respectfully submitted,

STATEMENT OF THE STATE OF NEBRASKA

Mr. Chairman and Members of the Appropriations Sub-committee on Energy and Water Development:

The State of Nebraska appreciates this opportunity to present a statement in support of an appropriation of $3,000,000.00 for fish and wildlife habitat mitigation, authorized for the Missouri River Navigation and Bank Stabilization Project by Section 601 of P.L. 99-662, The Water Resources Development Act of 1986.

There is a consensus among the four states of Nebraska, Iowa, Kansas, and Missouri that our citizens want and need to initiate construction of Missouri River mitigation projects. This is exemplified by the enthusiastic support for the project by Nebraska's Natural Resources Districts that adjoin the affected reaches of the river, as well as endorsements by the Honorable Kay A. Orr, Governor of Nebraska, and several state government agencies concerned with water projects.

The 1986 enabling legislation clearly establishes project justification. It also confirms the long-held contention of the four states involved that it is exclusively an obligation and duty of the federal government to fund and implement this project. Initiation of construction is overdue. Little or no mitigation has been accomplished in the 77 years since the project was initiated. It has been over 30 years, since equal consideration and mitigation for fish and wildlife values were adopted as national policy governing federal water project design.

Historically, the Missouri River was one of the most productive ecosystems in North America before virtually all segments were channelized and dammed. It had a naturally meandering channel, which included side channels (chutes) and associated pools, lakes, wetlands, sandbars and islands. The adjacent floodplain was a rich mix of native grass and woodlands. Channelization straightened the project reach, shortening the river by 127 miles. The areas destroyed covered 474,600 acres of diverse channel habitat. Land use of the protected floodplain converted an additional 1.8 million acres of habitat to economic uses.

In the late 1800s, before channelization and the advent of motorboats, commercial fishermen reported harvesting millions of pounds of a wide variety of important fish species. Today, the commercial fishing industry in this reach is only a ghost of what it once was. One fisherman

from Leavenworth, Kansas, has said that it takes him 60 miles of river to produce what he caught in one mile before channelization. The destruction of essential elements of the old Missouri River channel and floodplain has, for all practical purposes, sealed the fate of the large fish species that once flourished there...species like the blue catfish, flathead catfish, lake sturgeon, pallid sturgeon, and paddlefish (see accompanying historic photos). These large fish would provide an extraordinary sport fishing experience, one that could rival the salmon and white sturgeon fishing in parts of the Columbia River system.

The meandering, sprawling Missouri served as a major migration corridor for countless ducks, geese and other migrating birds, as well as home to other non-migrating species. A partial list of wildlife that reproduced on the river and associated terrestrial habitat included: American bittern, American woodcock, beaver, Canada geese, hognose snake, killdeer, king rail, least bittern, least tern, mink, muskrat, piping plover, sora rail, spotted sandpiper, Virginia rail, western massasauga, wood duck, and Woodhouses' toad. The river is still vital for migration, but reproduction needs must be met on off-stream sites. Only vestigial remnants of the chutes, oxbows, backwater areas, and islands remain of the diverse ecosystem that once comprised the Missouri River.

Responsible stewardship, based on sound management principles, and mitigation can replace some of the diverse plant and animal communities, which once characterized this unique river ecosystem, and thus restore a small part of our natural heritage to all our citizens.

We invite the members of the Committee to reflect with us on the contributions of the Missouri River to the natural and cultural heritage of the nation's heartland...and, indeed, the entire nation. Without attention, these valuable natural resources will fade forever into the past...a sad fate for the mighty river that the intrepid explorers Lewis and Clark followed to open the western reaches of our country, and the first to record the river's wildlife bounty.

LISTING OF COMMUNITY SUPPORT

1. Glen E. Kirk, P.E. Water Resource Manager Kansas Water Office retired from Bureau of Reclamation
2. Arnold D. Ross Landowner & Lower Republican Basin Advisory Committee of Kansas Water Office
3. Eugene Fisher President Stone Construction
4. Robert W. Gilbert Republic County Extension Agent
5. Robert O. Plinsky District Conservationist
6. Warren L. Hardin, P.E. Jewell County Engineer
7. Calvin Hobson Farmer & Landowner
8. John E. Ayers Landowner & former Board of Director member
9. David McMullen Executive Director Republic County ASCS
10. James B. Purcell former Superintendent of District & former member of Board of Directors
11. Curtis E. Williams retired Soil Conservationist
12. Ray Nelson Landowner and former Republic County Commissioner
13. Herbert E. Johnson President Swedish American State Bank
14. Paul W. Osborne V-President The Formoso Bank
15. Richard W. Campbell President The Scandia State Bank
16. Joseph L. Goedert Branch Manager Peoples Heritage Federal Savings
17. Fred Swoyer Attorney
18. V. C. Hurtig, Jr. Veterinary and landowner

1. Resolution - City of Courtland
2. Resolution - City of Scandia
3. Resolution - City of Republic
4. Resolution - Republic County Board of Commissioners
5. Resolution - Jewell County Board of Commissioners

STATEMENT OF GLEN E. KIRK, P.E., WATER RESOURCE MANAGER, KANSAS WATER OFFICE

Dear Chairman Johnston:

I am retired from the Bureau of Reclamation after working nearly 30 years in the Kansas-Nebraska area. I have been employed for the past five years by the Kansas Water Office as a Water Resource Manager. The Kansas Water Office is the State Planning and Policy Agency for development of the Kansas Water Plan.

During the time that I was employed by the Bureau of Reclamation, I was involved with the project formulation and various re-formulations of the Kansas-Bostwick Irrigation District, most of which were related to the inability to accurately foresee the extent of the drainage problems associated with development of the irrigation project. The Irrigation District Board looked to and depended upon the Bureau of Reclamation to provide professional advise and they have continually extended their obligation to repay their share of the project costs, including the ever increasing estimates of drainage construction requirements.

The repayment capability of the irrigation district has been updated by the Bureau of Reclamation and the irrigation district is currently paying at nearly that rate.

The heroic efforts by the irrigation district as described in their supporting material are not adequate to maintain the productivity of the Kansas-Bostwick Irrigation District Project Area. More than $8 million dollars have been added to the irrigation districts contract above the project estimate. These dollars are the irrigation district's share of the additional costs of drainage facilities associated with the extensive seepage problems that were unanticipated by the Bureau of Reclamation. If this $8 million plus dollars were declared nonreimbursable, the irrigation district could use its repayment capability to address the large backlog of drainage problems that are required to maintain the productivity of the project lands, thus assuring that the federal government would continue to receive payments at near the repayment capability rate from the irrigation district. This will not be the case if the project lands loose their productivity because of seepage problems.

I urge you to support the required legislation needed to assist the Kansas-Bostwick Irrigation District No. 2 in maintaining the productivity of their project lands.

Thank you for the opportunity to state my concerns on this problem.

STATEMENT OF JEWELL COUNTY (KS.) HIGHWAY DEPARTMENT

Dear Senator Johnston:

As Jewell County Engineer I am in charge of construction and maintenance of roads in Kansas Bostwick Irrigation District No. 2 in Jewell County. The increased water table in the area has caused severe road base and ditch deterioration. On a limited road budget this is causing ever increasing economic problems for the Jewell County Road and Bridge Department.

The high water table is causing our farmers to lose valuable farm land. This could result in their being unable to meet ad valorem tax obligations. This would cause the county to lose taxes that support the local road system.

The irrigation district is unable to cope with the deterioration of the system. I urge you to support legislation to help Kansas Bostwick Irrigation District No. 2 solve its problems.

Thank you for the opportunity to point out our concerns for the irrigation district. Your support will be appreciated.

STATEMENT OF PAUL W. OSBORNE, VICE PRESIDENT, FORMOSO (KS) BANK

Dear Mr. Chairman:

I urge your support for continued funding for drainage within the Kansas-Bostwick Irrigation District #2 (KBID). Please support Congressman Pat Roberts of Kansas, and the KBID #2 with favorable legislation which would allow nonreimbursable funds to pay for the existing drainage costs that are pending, and for the work that needs to be completed.

The problem of land that does not properly drain has caused severe problems to our local land owners, and has adversely effected some of our farm customers. I am the Vice-President of this six-million dollar Rural Bank, which is in the Southern and Eastern end of this project. Our Bank is located in Jewell County, Kansas. This Irrigation System is very important to the economy of our Community, and to the existing Communities that surround us.

Thank you for your consideration of our views on this issue that is of great importance to our community and to the customers of our bank.

STATEMENT OF CALVIN HOBSON, COURTLAND, KS

DearChairman Johnston:

I am writing to you to encourage nonreimbursable funds be used to correct drainage problems still present in the Kansas Bostwick Irrigation District No. 2.

I was farming in the Kansas Bostwick Irrigation Dist. when irrigation water was first delivered in 1954. The Bureau of Reclaimation personnel assured us the major cost of the district would be the building of the supply system. Very little was said about drainage problems. They stated there would be minor areas, but they could not be taken care of till they developed because they didn't know where they would develop. As you probably know, this district has spent nearly $10 000 000 on drainage.

High water table came to our area of the project early, and was reducing production, even on high elevation farms such as ours. Where drainage has been constructed it has accomplished its purpose.

I feel the district has tried every known way to overcome the drainage problems; even doing the most pressing problems with their own equipment. Without a full time drainage crew, it will take many years to take care of the

remaining 20% of the projects area in need of drainage. This is assuming more areas do not show up. In the meantime, there will be many unproductive acres in the district.

Due to the large number of acres in the district needing drainage, our annual charges are the highest of any district in the area. A 1982 Bureau study stated that about 8000 acres still needed attention. With prices of equipment and materials much higher now, I am sure the cost to finish the drainage work will be more than the farmers can afford to pay if it is not marked non reimbursable.

From the very start in 1954, the Bureau of Reclaimation has been in error on the acres needing drainage and the amount of money needed to do the construction. I feel this enormous error should obligate the Bureau to help correct the error before they move on to new projects in other areas.

STATEMENT OF CALIFORNIA STATE SENATOR WILLIAM A CRAVEN

Dear Senator Bennett:

I would like to take a moment of your time to indicate my very strong support that an appropriation of $4 million dollars be included in the 1990 budget to continue the development of the Oceanside Sand Bypass System.

It is my understanding that funding for this project was removed from the administration's budget under the criterion that federal aid to harbors should be limited to ports processing an annual minimum of 25,000 tons of commercial shipping.

Without further review of Oceanside's request for funding, it becomes very easy to draw the line and include its denial for money with those of other small ports. But, Oceanside's story is unique and represents a considerable investment by the Federal Government which will be wasted if an exception is not made.

Even though I know that considerable back up material has been given to you on this subject, I do want to make a couple of salient comments to focus on previous Federal involvement and what is at stake.

- A need for this project stems directly from the creation of a Federal Marine Facility dating back to World War II.

- The Corps of Engineers has already spent $12 million in design and installation which will be for not if we don't see this project to fruition.

- Completion of this system could ultimately lead to cost savings in dredging operations nation-wide.

For at least 20 years, I have watched Federal and local entities work towards the restoration of the Oceanside beaches. Because we have finally come so close to resolving this problem, which was created at the Federal level, it would seem unconscionable that the plug would be pulled and we would find ourselves nearly back at square one.

Therefore, I ask that you consider all the nuances of this project; what it means in terms of loss of not only in Federal dollars but years of very timely involvement by many levels of government. I feel that once all the facts are reviewed that you will agree with me that the commitment for the restoration of the beaches in Oceanside must be carried through to finality.

STATEMENT OF RAY NELSON, REPUBLIC COUNTY, KS, COMMISSIONER

Dear Chairman Johnston and Members of the Subcommittee:

In the way of introduction, I am Ray Nelson. I served as Republic County Commissioner for 24 years, living within the Kansas Bostwick Irrigation District. As a Commissioner during my 24 years, I worked my way through the district and state offices and was elected to serve on the Board of Directors of the National Association of Counties, where I represented all the counties of the State of Kansas for 16 years. I served on various committees and served two years as Chairman of Rural Affairs of the National Association of Counties. With this rural interest and having worked with many road and drainage problems of the County and Irrigation District, I feel qualified to give my thoughts regarding their problem.

The water users and land owners within the district have been bearing a heavy financial burden of taxes, water, maintenance, and drainage. Then this year they were hit with a state wide reappraisal which doubled the tax on most of the irrigation land. Now the State Legislators are considering a tax on fertilizer and water, to pay for the State Water Plan.

In my work as a County Commissioner viewing roads and appraising land, I have noticed the continuous growth of the drainage problems. These problems show up as patches of cat tails growing in various places in the fields, as the ground gets waterloged and is impossible to farm or even drive through. The water table in some areas gets so high that the water seeps out of the ground. This high water table also creates real problems in the farm wells, sewers, and in the basements of the homes in towns and the rural communities. It brings up alkali in which nothing will grow.

The Irrigation District has put in a lot of drainage pipe and done a good job draining the areas where they have had projects, but the drainage problems have continued to grow. As you know the cost of materials and equipment to battle these problems have got continuously higher every year, however they do need to continue with the projects.

As I understand, the Bureau plan called for the Irrigation District paying for 15% of the project in 1956 and Flood Control and Electric Power picking up 85%. Apparently it has'nt worked this way. This needs to be corrected.

I would like to thank you for the opportunity to give you some of my thoughts concerning this problem. I will assure you that any benefit you might be able to render will be greatly appreciated by the tax payers of the Irrigation District.

STATEMENT OF RICHARD W. CAMPBELL, PRESIDENT, SCANDIA STATE BANK, SCANDIA, KS

Dear Mr. Chairman,

I am the President of a $14 million bank whose customer area is served by the Kansas-Bostwick Irrigation District No. 2. The Irrigation District is a very valuable part of our community by helping to stablize the economic ups and downs of farming.

The development of the Irrigation District has given a boost to the local economy while it also requires maintainance. Specifically, the Irrigation District has had to work with solving some drainage problems. With the funds they have at their disposal, they have solved many of these drainage problems but they are still in need of additional funds to support correction of this problem.

I ask your support of legislation to help the Kansas-Bostwick Irrigation District No. 2 solve its drainage problems.

Thank you for your consideration of this issue that is of great importance to my community.

STATEMENT OF ARNOLD ROSS, FARMER, WEBBER, KS

The Honorable J. Bennett Johnston, Chairman:

My name is Arnold Ross, a farmer in the Bostwick Irrigation District, having lived and farmed in this area all my life, 55 years.

I am on the Natural Environment and Resources Committee (N.E.R.) for the Kansas Farm Bureau. It is concerned with letting the members know what is happening on Environmental and water issues that are facing us today.

The State of Kansas has 12 Water Basin Planning Committees of which I am a member in the Lower Republican Basin.

I was here before irrigation, so realize and see the seepage of water from irrigation. It is a big problem and seems to be growing each year. The silt in water creates a growing need to clean and repair on a regular basis.

The cost on the up keep of the system seems to get higher each year with the cost price squeeze the farmer is in today.

I feel the irrigation District is trying to take care of the problems, but never have funds to do what is needed each year.

A number of drains have been constructed and run water the year around, which is totally different from where water is being pumped out of the ground.

The District really needs help to try to keep the system in a useable condition so it will be here in years to come.

Thank you for this opportunity to comment on our needs and time for us to tell it to you at your committee hearing.

STATEMENT OF AMERICAN FISHERIES SOCIETY

Dear Chairman Johnston:

The American Fisheries Society (AFS) appreciates the opportunity to present written comments concerning the implementation of the Water Resources Development Act of 1986 (PL99-662).

The AFS was founded in 1870 and is the world's oldest organization of fisheries scientists, having been active for 119 years in fisheries research, scientific publishing, conservation, and enhancement. The AFS is also the world's largest fisheries organization with over 8,500 members who are employed by public agencies at the state, federal, and international level, as well as by educational institutions and private industry.

Several Sections of PL99-662 pertain to the conservation of fish habitat. Section #601 provides authorization for a number of water resources conservation and development projects. For example, the Secretary is authorized to acquire 88,000 acres of flood plain forest and bottomland hardwood to mitigate for losses as a result of construction of the Tennessee-Tombigbee Waterway. These lands are of critical importance to the productivity of warmwater fish habitats in the area. Further, the Secretary is directed to start the Missouri River mitigation of fish and wildlife losses and to study and report on the need for additional measures (Note: We enclose a detailed analysis and testimony concerning this project from our Iowa Chapter). We would like to know the status of these authorized projects.

Section #704 provides for a study of U.S. Army Corps of Engineer's capability to conserve fish and wildlife. The study was to have been completed and transmitted within 30 months of the date of enactment. As of FY1989 no study has been completed, apparently because of a lack of funds. Section #704(b) authorizes the Secretary to conduct projects of alternative or beneficially modified habitats for fish and wildlife, including but not limited to man-made reefs for fish. We are not aware of the initiation of any such projects.

Section #906 provides for mitigation and enhancement of fish and wildlife on Corps of Engineers projects. We don't know what if any actions have been undertaken under this Section. Additionally it is unclear whether "non-Federal interests" such as conservation groups have been approached to provide the 25% cost-sharing required.

Section #908 authorizes a $35 million Environmental Protection and Mitigation Fund to acquire lands for mitigation of project-induced losses of fish and wildlife production and habitat. We are not aware of any appropriations for this fund.

Section #1135 authorizes the modification of project structures or operations for the purpose of improving the quality of the environment in the public interest. A review of projects and subsequent transmission of a report to Congress (within two years of enactment of the Act) assessing the need for modification and the results of a demonstration project is required. As of November 10, 1987 thirty-two proposals had been received. What further progress has been made?

In summary the American Fisheries Society does not feel that there has been vigorous implementation of these sections. We request a status report to determine how the conservation

community might aid implementation of these and other provisions of the act that pertain to fish habitat. Finally we encourage full appropriation of the amounts authorized for implementation of these sections.

MISSOURI RIVER MITIGATION

THE ISSUE

The states of Iowa, Kansas, Missouri and Nebraska are leading an effort to secure funding under an authorization in Section 601 of the Water Resources Development Act of 1986. The authorization provided for $51.9 million for habitat restoration in mitigation of habitat losses suffered during the construction of the Missouri River Bank Stabilization and Navigation Project.

HISTORY

Before it was altered, the Missouri River was a free flowing river with a wide floodplain that facilitated regular channel changes and supported an extremely diverse ecosystem with a range of habitat within the river, the side channels and the adjacent wetland areas. In 1912, the government began to modify the system to better satisfy the needs of development and commerce. While these changes supported the needs of the population by preventing floods and fostering navigation and other uses, the result was a constrained channel which itself fosters the deterioration of the remaining wildlife habitat. The abundance and diversity of the fish and wildlife resources which once populated the area have greatly diminished. With them the perception and the reality of the Missouri as a scenic and recreational resource has waned as well.

THE LAW

In 1958, PL 85-624, the Fish and Wildlife Coordination Act gave rise to hope for the restoration of at least a portion of the fish and wildlife habitat along the Missouri River. This Act recognized the need for and mandated the assessment and mitigation of losses of habitat resulting from the construction of projects such as the Bank Stabilization and Navigation Project. In 1980, the U.S. Fish and Wildlife Service completed the Fish and Wildlife Coordination Act Report. In May of 1981, the U.S. Army Corps of Engineers completed their Fish and Wildlife Mitigation Plan which was their own analysis of the mitigation needs. This report recognized the legal mandate of PL 85-624. In 1986, after even more years of waiting, the states finally achieved some measure of success when the Water Resources Development Act authorized the expenditure of the $51.9 million for mitigation projects as well as a study to determine if additional mitigation beyond that authorized was appropriate.

CURRENT STATUS

The four states have banded together with other interests to promote the initiation of mitigation projects. Each state proposed a first concept or project from many ideas which they each had. The resulting four proposals are being offered as the starting point for the program. The states estimate that $7.4 million would be required to complete these first efforts. In the first year they are requesting an appropriation of $3 million, only a small portion of the amount authorized. The request recognizes the need to move ahead now. The money is not a part of the budget request for the Corps of Engineers, which means that the

states must secure an addition to the budget. While the program may suffer from a lack of priority in the federal budget, the mandate in the federal law to perform mitigation in combination with the continued deterioration of the little remaining habitat along the river compels the states to seek this funding.

ACTION REQUIRED

It is critical that all of those who support the need to maintain and restore the diversity of habitat to this nationally significant river system must now come forward in support of this effort. The four states are committed to pursuing the funding, but it will take the persuasive power of others and their active contribution to this vital task if we are to succeed. All local, state and national groups with an interest in resource management and protection are urged to provide their assistance in any way that they can.

DRAFT TESTIMONY ON MISSOURI RIVER MITIGATION

December 20, 1988

The State of Iowa appears before this committee along with the States of Kansas, Missouri and Nebraska for the purpose of requesting that $3,000,000 be appropriated to the budget of the U.S. Army Corps of Engineers for fiscal year 1990 in order to begin the process of mitigating the loss of fish and wildlife habitat along the Missouri River which resulted from the completion of the Missouri River Bank Stabilization and Navigation Project. The mitigation of fish and wildlife losses is required by federal law and must be initiated quickly to reverse the inexorable progress of the effects of the channelization process and the loss of even more wetlands and other critical areas.

Beginning in the year 1912, the United States government began to take an active role in the physical modification of the Missouri River to allow it to better serve the rapidly increasing base of commerce and population as the westward expansion of the nation proceeded through the area. This development, though beneficial to local and national interests, was at the expense of the natural riverine habitat. Early efforts in support of navigation were consistent with the drive to industrialize and served the goals of the time. By the 1930's and 40's work on the River was focused on the need to navigate the river further up to the Sioux City, Iowa area as well as to protect downstream cities from the ravages of flooding. These new, more ambitious plans for the River carried an even greater price in terms of the loss of habitat.

In 1958, however, with the passage of PL 85-624, the Fish and Wildlife Coordination Act, there was a new mandate to recognize and to mitigate the losses to fish and wildlife habitat resulting from the construction of federal projects. By definition, the Missouri River Bank Stabilization and Navigation Project was covered by the Coordination Act and subject to its requirements. To satisfy this Congressional mandate, the agency responsible for the project was required to work with the Fish and Wildlife Service to assess the losses and to determine what effrot was necessary to mitigate the losses.

The U.S. Fish and Wildlife Service did an assessment of the amount of fish and wildlife habitat that had been destroyed by the Bank Stabilization and Navigation Project and identified mitigation needs. Briefly, the report showed that nearly 200,000 acres of habitat would be lost from the natural channel area and additionally, nearly another 400,000 acres of habitat in the active erosion area would be lost to agricultural and urban uses.

While these lands were put to a beneficial use, the drastic reduction of habitat along the Missouri River has taken its toll on the extent and diversity of wildlife. The Fish and Wildlife Service's mitigation plan would return many of the lost acres to productive habitat.

The U.S. Army Corps of Engineers completed their own assessment of mitigation needs based on the Service's report and recommended that $51.9 million in mitigation projects would be appropriate. This plan was recognized by the Corps as satisfying only a small portion of the need, but they argued that it was a rational compromise. Based on the Corps report, Congress authorized that amount of funding for mitigation projects on the Missouri River in Section 601 of PL99-662, The Water Resources Development Act of 1986. While the states took heart at this result, no action has followed. The Corps has made no proposal to initiate projects by seeking an appropriation even though mitigation is mandated in federal law, and substantial effort and time on the part of many state and federal agencies is wasted on preliminary work which needs to move ahead. The reports also expended considerable amounts of federal funds.

The lack of a request for an appropriation by the Corps of Engineers has driven the states of Iowa, Kansas, Missouri and Nebraska to initiate their own. The states come to the Congress united in their determination to have the federal government begin funding of a project which has been recognized as required under federal law. It would be inappropriate to end the process without any actual construction.

In face of arguments that the work is of low priority, we would suggest that the prior effort and the federal mandates should be an adequate response. In addition, however, there are several projects now and recently completed which also been funded to accomplish mitigation activities(get a list together). The resource itself is in a state of continued degradation. The impacts on the River are even now increasing as the river channel degrades. The forces created by the project have continued to lower the level of the river as the swift currents scour the channel. The result of this action is the drying up of wetlands and oxbows along the river channel as the groundwater level lowers with the river to which it is hydraulically connected. Plans for augmentation of water flow and the cutting of new channels into areas along the main channel to reconnect them to the River, could help to return some areas to useful habitat.

Each state is in a different circumstance in regard to their ability to designate a particular project with which to commence the mitigation program in their state. The U.S. Fish and Wildlife Service has forwarded a supplement to the original mitigation report to the Corps of Engineers. In this supplement, the states have provided a brief outline of projects which would be typical of those which they believe would best satisfy mitigation needs in their area. Our own offering is included in that report which is attached as an appendix to this testimony. We also offer a more complete list of projects which have already been identified as mitigation sites in Iowa. The exact nature and scope of the projects will be more well defined as planning and design of the projects is initiated. This first year's appropriation will provide the Corps of Engineers with the resources to scope and design a project in each state and to begin work on at least one of the project areas.

Mitigation of fish and wildlife losses due to project construction is not a unique circumstance. The requirement for mitigation in the 1958 Act means that current projects will automatically include this as a project element. The fact that

the Bank stabilization and Navigation Project was already underway at the time of the passage of the Fish and Wildlife Coordination Act does not alter its applicability. The law does apply and that has not been an issue. Given that circumstance, we would have expected this program to be a part of the Administration's budget request before now. In any event it is critical that the Congress recognize that its mandate for mitigation on this project must move forward.

Finally, it should be noted that the request for fiscal year 1990 is only $3,000,000. That amount is requested in order to satisfy several conditions. First, we recognize that there is a tremendous burden on the federal budget already. We do not choose to be unreasonable in our approach to this funding issue, and we believe that this is a responsible first year request. Secondly, this request is based on the assumption that we will need several years of funding in order to initiate and complete projects. The experience of other similar projects would indicate that the first year of this program will be largely a design program with the earliest construction likely to be at best at the end of the funding year. At the same time, our long term objective is to see the completion of at least the $51.9 million program authorized program. We are also interested in conducting another review of the appropriateness of the proposed level of mitigation. The original report from the U.S. Fish and Wildlife Service documented needs which were orders of magnitude different than that which the Corps of Engineers has recommended. While the mitigation efforts must be modified by fiscal reality, there is considerable room between the recommended approach and what would be characterized as an adequate mitigation plan.

STATEMENT OF ROBERT O. PLINSKY, DISTRICT CONSERVATIONIST, BELLEVILLE, KS

Dear Mr. Chairman:

I urge your support for continued funding of drainage projects within, or adjacent to, the Kansas Bostwick Irrigation District No. 2. It is my understanding that Congressman Pat Roberts is proposing legislation which would help pay for drainage costs in the Bostwick Irrigation District and I support these efforts.

During the past 8 years, I have served as District Conservationist for the Soil Conservation Service in Republic County. Numerous inquiries have been received in our office from landusers, both in, and adjacent to, the Bostwick Irrigation District regarding gradually rising water tables and sideslope seeps during periods of irrigation.

To help alleviate these problems, some form of organized drainage work would be most helpful. I encourage the Bostwick Irrigation District and the Bureau to evaluate the delivery system to make sure it's operating efficiently. During the past 20 years, it has become apparent that the original project did not adequately anticipate the magnitude of the drainage problems. These proposed drainage costs and the operation and management costs are a burden on the local producers. In arriving at a solution, I feel that we must keep in mind that the landowner or landusers are the main beneficiaries.

I encourage the Committee to support legislation and funding to help Kansas Bostwick Irrigation District No. 2 and its' patrons solve their drainage problems.

STATEMENT OF KANSAS BOSTWICK IRRIGATION DISTRICT NO. 2

Mr. Chairman and Members of the committee. We are a north central Kansas Project located in Republic and Jewell Counties. We provide water to approximately 500 landholders who irrigate 41,888 acres.

The Bostwick Unit was authorized as part of the Missouri River Basin Project by the Flood Control Act of 1944. The unit was divided into two districts, one in Nebraska and one in Kansas. My comments shall be in reference to the Kansas District, for which I am Superintendent. However, the Nebraska District joins us in this effort. Construction of our district began in the early 50's and was completed in 1969, with the exception of a pump system which was never built, for lack of funds. The district took control of the operations in five blocks, with the last block turned over to the district in 1969.

The Kansas Bostwick Irrigation District No.2 has been very beneficial to our area, just as Congress intended, when they authorized the project. We thank the Congress for its wisdom and support, and hopefuily their continued support.

Our district has a "disease" which we have been treating for years. We feel there is a cure available by declaring unplanned "Additional Drainage Funds" be paid from power revenues. The Board of Directors has ask me to present this case to you.

We realize the budget restraints of the committee, and are not asking you to spend millions of new federal dollars on our project. We also know the budget restraints of our farmer patrons who would be over their ability to repay for the project, if additional new funds were borrowed.

Allow us to solve these problems ourselves by declaring the Additional Drainage Funds, which we borrowed to solve the problems in 1971, 1974, and 1976 as nonreimbursable. We will continue to collect from our users, but will be able to put these dollars to work correcting the crippling drainage problems, while improving the quality of our water and system. According to the original planned payment percentages, power revenues should pick up these costs.

In the early 60's, drainage problems began to show up. The district began attacking these problems with all their ability, as was intended by the original plans.

It soon became evident the district was neglecting its canal and lateral system, to try to keep up with the ever increasing drainage problems. In 1969 the district turned to the Bureau of Reclamation for help.

The Bureau conducted drainage studies and found serious ground water problems over virtually all of the district. All Bureau personnel involved, from Project Managers to the Commissioner of Reclamation, agreed corrective action needed to be taken as soon as possible.

The Board of Directors, realizing the problem was beyond the district's ability to handle, signed a $1,961 million amendment to our original $5.781 million authorization. This was called the First Additional Drainage.

The Bureau, also realizing the vast damage which was done, helped the district obtain deferrments of it's annual charges until productivity could be returned to the land.

We wish this could have been the end of the story, but the drainage problems grew and grew, requiring a $3.353 million and a $3 million amendment, known as Second Additional Drainage, plus another deferrment of charges.

We have correspondence from bureau personnel, expressing the desperate need for the additional funds and their sure'ty that the funds would complete the required drainage facilities.

Following the last drainage amendment, the irrigation district had obligated itself to $9.973 million worth of drainage of our total debt of $14.095 million. Of this $1.961 million was First Additional Drainage and $6.353 million was Second Additional Drainage.

The Board of Directors after each Amendment, under advisement from the Bureau, called in affected farmers, broke down the areas into drainage basins, and set up time tables for completion.

In the late 70's, the Bureau informed the Directors the program was behind schedule and would fall 20% short of draining the planned basins and an additional $1.8 million would be needed to finish the drainage basins, identified at that time.

The Board of Directors being uncertain of the irrigators ability to repay additional funds, approached Congressman Keith Sebelius in an effort to obtain funds. When this effort failed, we turned to the Bureau of Reclamation, who was also uncertain of our ability to repay and was anxious to do a study of remaining drainage.

Their study was released in a Special Report in April, 1982. The result was to identify $20.5 million worth of additional tile drainage needs and to move our repayability to $30.75 per acre, which of course, meant we could pay a $9.9 million scheme to drain the $20.5 million worth of drainage identified.

In 1983 the last basin under Second Additional Drainage Funds was built. The program had come to a complete halt, 23% short of draining the 10,561 acres which the Bureau had said could definitely be drained with the Additional Drainage Funds. The cost breakdown of the final basin was 56% to the Bureau for administration and design, with only 44% for actual construction.

At this time, the Board of Directors feeling the pinch of the disasterous farm economy, took steps to handle the problems on our own, as best as we could. We purchased equipment and material. We trained and hired extra employees.

Even though the district has been as agressive as possible, we have not even made a dent into the drainage identified in the 1982 study.

The effect of the drainage program has been a tremendous annual financial burden for the district. According to the Bureau of Reclamation material, we are currently paying more charges than any of the 14 districts in the Nebraska-Kansas projects, followed by Frenchman-Cambridge and the Bostwick of Nebraska. The reason Frechman-Cambridge is second on the

list, is not because they have borrowed drainage funds, rather because they were able to totally rehabilitate their lateral system with buried plastic pipe. Both Bostwick districts need to upgrade our lateral systems with pipe to conserve water, quality of water, and prevent seepage, which is adding to the drainage problem. However, we are so burdened with past drainage charges, we cannot make the needed improvements. All indications are by 1990 we will be paying at or over the $30.75 per acre, identified in the 1982 study.

According to my calculations, if these funds were declared nonreimbursables, we would still be the highest paying district in Kansas or Nebraska. Similar results can be found for Bostwick of Nebraska.

We would also note, in 1979 when we were pondering our next move, we were informed by local bureau personnel that the 1956 Definite Planned Report called for irrigation to pay for 15.5% of the project, with power revenues picking up 84.5%. Today because of drainage, irrigation is paying 25.6% with power revenues picking up 74.4%. This 10% shift in responsibility gives power revenues room to pick up much of this cost, and still be within the original plan.

We understand a new project that is presently under construction has authorization for $259,290,000, according to a 1983 summary statistics, Volume III, Project Data, United States Department of Interior report. The report points out power revenues are going to pay 89.2% of the project cost.

Mr. Chairman, and Members of the Committee, we request the United States Congress to enact legislation allowing Missouri Basin Power Revenues (Pick-Sloan) to pay this additional drainage as needed and recommended in the 1982 Inventory of remaining subsurface drainage requirements. We would request the legislation to allow for power revenues to pay for $8.314 million which is over and above the $1.659 million originally agreed upon for drainage.

We feel this legislation would present a cure to our drainage problem and provide much needed relief to our patrons, while upgrading the quality of our water and system.

Mr. Chairman and Members of the Committee, we thank you for the opportunity for this presentation. We strongly urge your support for this type of legislation.

We are available to answer questions. Thank you.

LISTING OF COMMUNITY SUPPORT

1. Glen E. Kirk, P.E. Water Resource Manager Kansas Water Office retired from Bureau of Reclamation
2. Arnold D. Ross Landowner & Lower Republican Basin Advisory Committee of Kansas Water Office
3. Eugene Fisher President Stone Construction
4. Robert W. Gilbert Republic County Extension Agent
5. Robert O. Plinsky District Conservationist
6. Warren L. Hardin, P.E. Jewell County Engineer
7. Calvin Hobson Farmer & Landowner
8. John E. Ayers Landowner & former Board of Director member
9. David McMullen Executive Director Republic County ASCS

10. James D. Purcell former Superintendent of District & former member of Board of Directors
11. Curtis E. Williams retired Soil Conservationist
12. Ray Nelson Landowner and former Republic County Commissioner
13. Herbert E. Johnson President Swedish American State Bank
14. Paul W. Osborne V-President The Formoso Bank
15. Richard W. Campbell President The Scandia State Bank
16. Joseph L. Goedert Branch Manager Peoples Heritage Federal Savings
17. Fred Swoyer Attorney
18. V. C. Hurtig, Jr. Veterinary and landowner

1. Resolution - City of Courtland
2. Resolution - City of Scandia
3. Resolution - City of Republic
4. Resolution - Republic County Board of Commissioners
5. Resolution - Jewell County Board of Commissioners

STATEMENT OF LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT

Dear Congressman Johnston:

We are writing to convey our requests and positions on several programs and projects that have been included in the Administration's Budget recommendations for the Fiscal Year 1990. The specific programs and projects of interest include the Antelope Creek flood survey for Lincoln, Missouri River Mitigation (PL 99-662), Section 22 Technical Assistance to the State of Nebraska from the Corps of Engineers, Section 205 Small Flood Control Project funding, and funding for the Environmental Protection Agency's Clean Lakes Program.

Antelope Creek Flood Survey, Lincoln

This reconnaissance study of Antelope Creek through Lincoln by the Army Corps of Engineers was fully funded in Fiscal 1989 and is about to commence. We anticipate the study will demonstrate the vital need for flood control assistance and recommend a feasible solution.

To keep this project moving at the needed pace, we urge approval of the funding in the amount of $300,000 in the Fiscal 1990 Corps of Engineer's Budget for the next phase, the Feasibility Study.

Antelope Creek flows from southeast Lincoln in a northwesterly direction through an extensively developed urban area. This area contains many established residences, businesses, and public facilities, including Lincoln High School, that would be impacted by flooding along Antelope Creek. Flooding would also greatly impair the transportation network through the City. The economic and social damages from flooding in this built-up urban area along Antelope Creek would be substantial.

Section 205 Small Flood Control Project
Corps of Engineers

Two different projects in the Lower Platte South Natural Resources District are moving into the Feasibility and Definite Design Phases under Section 205. The proposed levee project to provide flood protection from the Platte River to the majority of the Village of Cedar Creek in Cass County is entering the Definite Project Design phase, while a flood improvement project for Salt Creek through Lincoln will start the Feasibility Study phase.

We urge adequate funding of the Section 205 Authorities for the Corps of Engineers in Fiscal 1990.

Missouri River Mitigation (PL99-662)

A portion of the Missouri River borders our District and is an important resource in our area. We join with the several other Natural Resources Districts in Nebraska and with the States of Nebraska, Iowa, Kansas and Missouri in requesting an appropriation of $3,000,000 for fish and wildlife mitigation authorized for the Missouri River Navigation and Bank Stabilization Project by Section 601 of PL 99-662, The Water Resources Development Act of 1986.

The improved Missouri River channel for navigation provides a significant economic benefit to the region, however, it has been achieved at a major loss of productive fish and wildlife habitat. Mitigation of these losses is required by the 1985 Fish and Wildlife Coordination Act, and the mitigation plan prepared by the Corps of Engineers shows that mitigation can be accomplished with only minimal import upon navigation and other uses. The Missouri River has a tremendous potential for expanding the multiple uses; this mitigation start would be a very important positive move in that direction.

Section 22, Technical Assistance to States
Corps of Engineers

The State of Nebraska has requested funding of the full $300,000 eligible for technical assistance on a number of projects to be provided by the Corps of Engineers in Fiscal 1990. One of these projects is of particular interest to our District.

In Fiscal 1989, funding was available for Phase I of the Missouri River Corridor Study. This phase involved the Nebraska side of the Missouri River from South Souix City to the Platte River and the identification and design of backwater restoration areas of cultural, historical or recreational significance.

It is planned to continue this study into Phase II in Fiscal 1990 to carry it from the Platte River downstream to Rulo. The proposed funding for this activity is $85,000.

Apparently, the Administration's Budget includes $5 million for Section 22, nationwide, but also proposes a 50% non-federal cost-share. We would urge the Subcommittee to maintain this program at a 100% federal level and to fund it at $5 million for Fiscal 1990.

Clean Lakes Program (Section 314)
Environmental Protection Agency

Another program of great interest to the District is the Clean Lakes Program (Section 314) of the Water Quality Act of 1987. Through the State of Nebraska, we have submitted an application to the Environmental Protection Agency for assistance under this program.

The application includes five public reservoirs where siltation and other water quality problems already have or are likely to impair recreational use of the facilities. Three of these reservoirs were built by the Corps of Engineers and the other two by the Soil Conservation Service, USDA for flood control. Subsequent to their construction, these reservoirs have become major recreation areas for the region and the State. They provide a tremendous outdoor recreation opportunity for fishing, boating, camping, and waterfowl hunting.

Branched Oak Lake, the largest of the reservoirs at 1,800 surface acres, is surrounded by nearly 4,000 acres of public lands. This facility receives more than one million recreation user days per year, the most heavily used state-owned public area in Nebraska.

Numerous complaints have been received from individual recreation users and groups concerning this siltation problem. The fisheries resource is being damaged, along with boating, camping, and swimming opportunities.

The Clean Lakes Program of the Water Quality Act would be an avenue of financial assistance to the State of Nebraska and the local governmental entities to restore and protect these lakes for continued recreational usage. The first step would be to conduct diagnostic/feasibility studies on selected lakes to analyze the lakes' condition, determine the causes of sedimentation and eutrophication, and identify procedures necessary to protect and restore their quality. The following phase would be to implement those restoration and protection procedures.

We encourage continued funding for the Clean Lakes Program. Our precious water-based recreation provided by these reservoirs is in danger of diminishment or loss through sedimentation and other water quality degradation.

We appreciate this opportunity to convey to you our requests and recommendations on funding of water projects.

STATEMENT OF DAVID MC MULLEN, COUNTY EXECUTIVE DIRECTOR, REPUBLIC COUNTY, KS, ASCS OFFICE

Dear Mr. Chairman:

I urge your support for continued funding for drainage within the Kansas-Bostwick Irrigation District No. 2, and I urge your support for Congressman Pat Roberts to assist in passing legislation to help pay for the drainage costs.

I have been the County Executive Director of the Republic County ASCS Office for the past ten years and have lived in the Courtland area for the past seven years. The water table has shown a gradual increase in District No. 2 since I have been in Republic County.

This increased water table has caused some cropland to be taken out of production. This loss of productive land has caused an economic hardship to producers in Republic County. In areas where drainage has been applied to the land, producers were once again able to farm this cropland.

I ask that you support legislation to help Kansas-Bostwick Irrigation District No. 2 solve its drainage problems and thank you for taking the time to review this problem.

STATEMENT OF MISSOURI RIVER BANK STABILIZATION ASSOCIATION

On behalf of the membership of the Missouri River Bank Stabilization Association, we certainly want to thank you for this opportunity to testify before you with reference to the Fiscal Year 1990 budget. We do appreciate your granting us the privilege of testifying, and we also appreciate the genuine interest and consideration you have shown us today and on the occasion of our previous appearances.

As you know, little remains of the "wild Missouri", the river familiar to those who used it as a main avenue to the northern plains and the mountains beyond. Thanks to your interest and concern, a segment of the old Missouri is now being protected and preserved. Last year you demonstrated a continuing interest and concern for the "old-time Missouri" through your recommendation of $100,000.00 in construction funds and $200,000.00 in maintenance funds. We certainly thank you for that concrete expression of your support!

Today we are here to request that funding for the Missouri National Recreation River Project, authorized in 1978 under Section 707 of Public Law 95-625, **be included in the budget for FY 1900.** At the time this project was authorized, its cost (to be expended over a period of years) was identified as $21,000,000.00. **For FY 1990, $1,000,000.00 is needed for construction as well as $200,000.00 for operation and maintenance of the works already completed along this reach of the river** under the Section 32 Streambank Erosion Control and Demonstration Act, an act which expired in 1983.

To refresh your memory, this project covers the fifty-nine (59) mile segment of the Missouri lying between the Gavins Point Dam, near Yankton, South Dakota, and the Ponca State Park, near Ponca, Nebraska. This is the sole remaining segment of the Missouri below Gavins Point Dam which is neither channelized for navigation nor inundated by any of the lakes formed by the damming of the Missouri. Here, the Missouri occupies its "old" valley, that not changed by the most recent period of glaciation. This valley is considerably wider than the "new" valley extending upstream of Yankton, South Dakota, and the loose, fertile soil of its broad floodplain is easily eroded. Unchecked, the Missouri wanders at will, devouring its shoreline in a frighteningly casual way. The problem is compounded by the varying releases of water at the Gavins Point Dam. Those releases are determined by numerous, often unpredictable, factors such as navigation needs, the demand for hydro-electric power, efforts to protect endangered species, (such as the least tern and the piping plover), the need for flood control, and the demand for drinking water. In consequence, the unprotected soil of the floodplain is under almost constant attack. The River and its corridor is that which we seek to protect and preserve.

Continuation of the funding for this project will enable the Corps of Engineers to pursue its work to contain the River and protect the

investment of some $6,000,000.00 of work already completed. We belive the financial responsibility for this falls to the federal government because this is, after all, a *National river,* so designated by Congress.

In conclusion, we again thank you for this opportunity to appear before this sub-committee and for the consideration you have shown for those farmers, outdoorsmen, environmentalists, and others who make up the Missouri River Bank Stabilization Association.

We would be happy to try to answer any questions you might have.

Thank you.

STATEMENT OF FRED D. SWOYER, SWOYER & SIMMS, ATTORNEYS-AT-LAW, BELLEVILLE, KS

Dear Chairman:

For more than 30 years I have been the attorney for the Kansas Bostwick Irrigation District No. 2.

That from almost its very beginning, the Irrigation District has had severe drainage problems resulting from the irrigation project. The Bureau of Reclamation has, at the expense of the district, furnished professional help in designing numerous plans and designs to help solve the drainage problem. While the construction of these drainage designs have helped the situation, they have not begun to solve the problem.

The irrigation district has added more then $8,000,000.00 to the repayment contracts above the project's original estimate. While all of these funds were for the designing and construction of drainage facilities to solve the seepage problems that were not foreseen nor anticipated by the Bureau of Reclamation when the district was designed, they have not solved the drainage problem. There are still a large number of landowners with many acres of land being damaged by seepage as a result of insufficient drainage from the irrigation water.

There have been some landowners who have threatened to file law suits against the district for damage to their land resulting from the seepage from the irrigation water. We have been successful in persuading these people not to start litigation and have convinced most of them that the district was doing all it could to solve the problem, and that it would continue to do everything in its power to solve the problem. It is our best judgment that if any litigation is ever filed and the landowner should prevail, that it will trigger the filing of many law suits which could, in effect, bankrupt the district.

It is imperative, in my judgment, that more be done to solve the drainage problem. If the more than $8,000,000.00, above mentioned, were declared to be nonreimburseable, then the Irrigation District could use its repayment capability to design and construct additional drainage facilities. It is, in my judgment, an absolute must that additional drainage be constructed as the alternative will be that more and more acres will loose their productivity as a result of the seepage problem.

We do urge you to support proper legislation needed to make it financially possible for the Irrigation District to construct the necessary drainage to protect the productivity of all acres within the district.

We do appreciate the opportunity to present our views and concerns concerning the drainage problem of the district.

STATEMENT OF JAMES B. PURCELL, WEBBER, KS

Dear Mr. Chairman:

I served as Superintendent of the Kansas Bostwick Irrigation District from 1972 to 1975, and was President of the Board of Directors from 1975 until 1987. I am, therefore, painfully familiar with the drainage problems being experienced by the District. The most stressful part of my job throughout my tenure, both as superintendent and director, was dealing with farm irrigators' and landowners' anger and fear regarding escalating drainage problems and the associated cost of correcting those problems.

The fact that the 1.659 million dollars originally allocated to deal with drainage was woefully inadequate became apparent before the District had been in operation for ten years. Each time additional funds were borrowed to try to solve the problem we were told that the necessary drainage construction could now be completed. After amending our contract three times and spending more than eight million dollars on drainage construction, creating an obligation that would strain our repayment capacity, the Bureau of Reclamation advised us that the cost of completing our drainage program could run as high as an additional 20 million dollars. At this point the District directors lost any remaining faith in the Bureau's ability to properly assess the magnitude of the problem. We had come from our original faith in a project that, during the planning phase, was estimated to obligate the District farmers to a repayment contract of about 3.5 million dollars to a situation that could balloon the total obligation for a properly drained system to as much as 34 million dollars!

Whether the drainage problem could or should have been forseen by the planners of the project is debatable, but the end result is all too clear. A nightmarish situation has been created for irrigation district farmers. The drainage problems need to be corrected, but with the present farm economy, there is no way that the necessary funds can be raised through higher assessments on the land. I personally lost 800 acres of land in a foreclosure proceeding in 1986, and several of my neighbors have gone through similar hardships. One is facing a court test between now and spring planting time to determine whether or not his operation will be able to continue for another year under Chapter 12 bankruptcy protection. I mention this only to point out that the farm economy, at least in this area, is still in serious trouble.

The irrigation district directors and management have made a valiant effort to deal with the drainage problem, but it appears to be out of control without additional major financial support. I strongly endorse their efforts in attempting to obtain non-reimbursable funds for this purpose, and respectfully request that you approve their appeal.

Thank you for allowing me the opportunity to comment on this very difficult problem.

STATEMENT OF KENT O. MILLER, GENERAL MANAGER AND DISTRICT ENGINEER, TWIN PLATTE NATURAL RESOURCES DISTRICT

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE, I AM KENT O. MILLER, GENERAL MANAGER AND DISTRICT ENGINEER FOR THE TWIN PLATTE NATURAL RESOURCES DISTRICT.

NEBRASKA'S 24 NATURAL RESOURCES DISTRICTS ARE LOCAL POLITICAL SUBDIVISIONS OF THE STATE OF NEBRASKA CREATED TO CONSERVE, PROTECT, DEVELOP AND MANAGE THE NATURAL RESOURCES OF THE STATE. NATURAL RESOURCES DISTRICTS, WHICH WERE ESTABLISHED IN 1972, CONSOLIDATED THE FUNCTIONS PREVIOUSLY PERFORMED BY SOIL AND WATER CONSERVATION DISTRICTS AND WATERSHED CONSERVANCY DISTRICTS IN NEBRASKA.

THE TWIN PLATTE NATURAL RESOURCES DISTRICT IS LOCATED IN WEST CENTRAL NEBRASKA WHERE THE NORTH PLATTE RIVER AND THE SOUTH PLATTE RIVER COME TOGETHER TO FORM THE PLATTE RIVER. (See attached map)

I AM TESTIFYING TODAY IN REGARD TO A STREAMBANK STABILIZATION "DEMONSTRATION PROJECT" ALONG THE PLATTE RIVER AND ITS TRIBUTARIES, THE NORTH PLATTE RIVER AND SOUTH PLATTE RIVER IN LINCOLN COUNTY, NEBRASKA. THE "DEMONSTRATION PROJECT" IS LOCATED IMMEDIATELY ABOVE AND BELOW THE CONFLUENCES OF THE NORTH PLATTE RIVER AND THE SOUTH PLATTE RIVER WITH THE PLATTE RIVER FOR A TOTAL COMBINED AND CONTIGUOUS PROJECT OF APPROXIMATELY 46 RIVER MILES. (See attached maps)

I FIRST TESTIFIED BEFORE THIS COMMITTEE IN 1984, ALONG WITH THE PLATTE RIVER FLOOD CONTROL ASSOCIATION, FOR THIS "DEMONSTRATION PROJECT". TODAY IS THE 5TH TIME THAT I HAVE HAD THE PRIVILEDGE TO COME BEFORE YOU, AND I AM PLEASED TO HAVE THE OPPORTUNITY TO PRESENT A STATUS REPORT.

THIS "DEMONSTRATION PROJECT" CONTINUES TO BE AN IDEAL DEMONSTRATION MODEL OF A TYPICAL REACH THAT WOULD BENEFIT THE ENTIRE BASIN FROM THE KNOWLEDGE GAINED. THE "DEMONSTRATION PROJECT" DESIGN CURRENTLY CONSISTS OF 60 SITES AND UTILIZES ALTERNATIVES USED ON OTHER RIVERS IN DIFFERENT PARTS OF THE COUNTRY OR IN THE LABORATORY FOR STUDY OF THEIR EFFECTIVENESS IN THE PLATTE RIVER SYSTEM. THIS REACH EXPERIENCES SEVERE STREAMBANK STABILIZATION PROBLEMS ANNUALLY AND WILL PROVIDE IMMEDIATE BENEFITS FOR DEMONSTRATION AND STUDY. CONSTRUCTION OF THIS DEMONSTRATION PROJECT WILL ALLOW THE FEDERAL, STATE AND/OR LOCAL AGENCIES AND THE LANDOWNERS TO OBSERVE IN PLACE ALTERNATIVE DESIGNS AND TAKE HOME THE TECHNICAL INFORMATION OF THE ALTERNATIVES OF INTEREST TO THEM TO USE TO PROTECT THEIR RIVER BANKS AND REDUCE THEIR DAMAGE.

THIS "DEMONSTRATION PROJECT" CONTINUES TO HAVE GOOD LOCAL SUPPORT. DURING 1986 THE U.S. ARMY CORPS OF ENGINEERS DESIGN TEAM PARTICIPATED IN AN OPEN HOUSE IN THE TWIN PLATTE NATURAL RESOURCES DISTRICT OFFICE. THE OPEN HOUSE PROVIDED THE LANDOWNERS OF EACH PROPOSED SITE AN OPPORTUNITY TO MEET INDIVIDUALLY WITH THE DESIGN TEAM AND VIEW THE PRELIMINARY DESIGNS. SIXTY-THREE INDIVIDUALS CAME TO THE OPEN HOUSE ALL OF WHOM SUPPORTED THE PROJECT. EACH INDIVIDUAL HAD A MINIMUM OF AN HOUR WAIT FOR THEIR TURN AND NO ONE LEFT OR COMPLAINED.

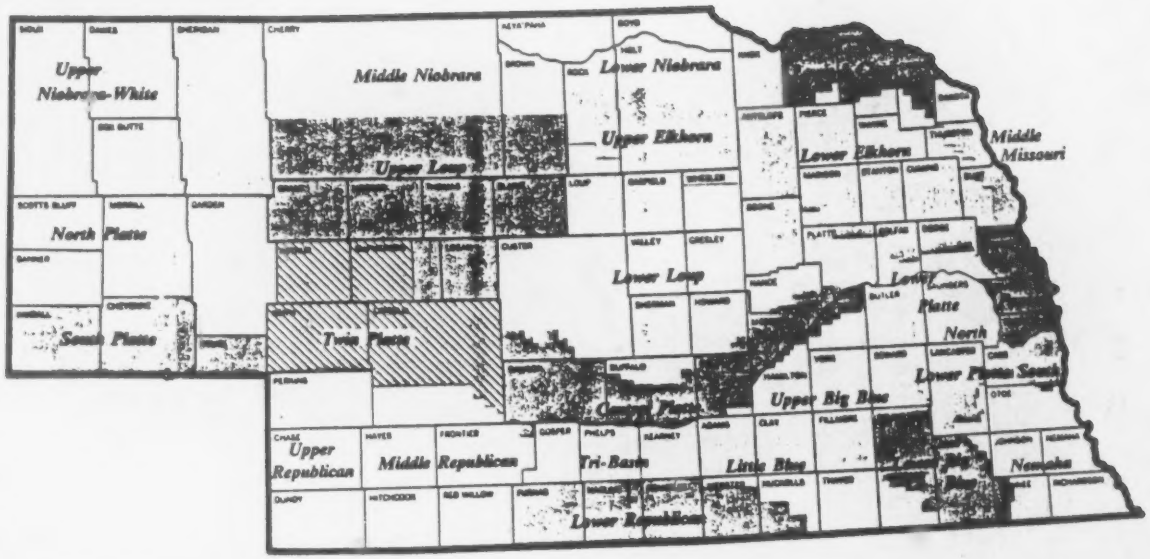
DUE TO THIS COMMITTEE'S SUPPORT AND SUBSEQUENT CONGRESSIONAL DIRECTIONS, THE U.S. ARMY CORPS OF ENGINEERS HAS COMPLETED A PRELIMINARY DESIGN AND IS SCHEDULED TO COMPLETE A "DECISION DOCUMENT" AND AN ASSESSMENT OF ENVIRONMENTAL IMPACTS IN THE NEXT FEW MONTHS. THE CORPS OF ENGINEERS PLANS TO BEGIN THE PREPARATION OF THE "PLANS AND SPECIFICA-

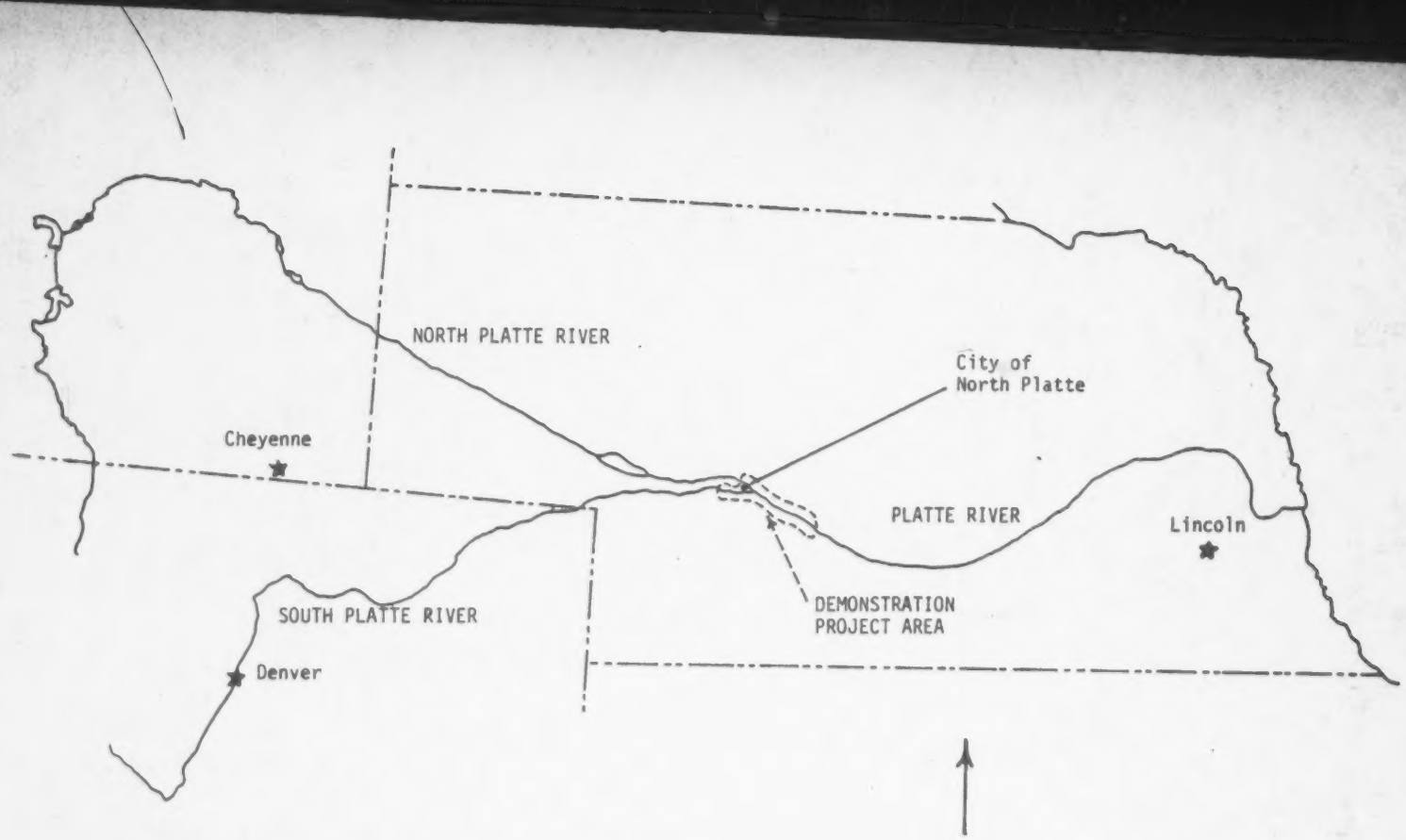
TIONS" TO COMPLETE PRE-CONSTRUCTION ACTIVITIES LATE IN THE CURRENT FISCAL YEAR.

CONSTRUCTION OF THIS "DEMONSTRATION PROJECT" IS NOW EXPECTED TO BE ABLE TO BEGIN IN FISCAL YEAR 1991. THE TOTAL PROJECT COSTS FOR CONSTRUCTION, IS NOW ESTIMATED TO RANGE FROM $2,795,000.00 TO $3,483,000.00. I EXPECT TO RECEIVE THE FINAL COST ESTIMATE DURING THE NEXT FEW MONTHS. I PLAN TO RETURN NEXT YEAR, ALONG WITH A REPRESENTATIVE OF THE PLATTE RIVER FLOOD CONTROL ASSOCIATION, TO APPEAR BEFORE THIS COMMITTEE TO REQUEST FUNDING FOR CONSTRUCTION. NO ACTION OR FUNDING IS REQUESTED FOR FISCAL YEAR 1990.

I WANT TO THANK THE COMMITTEE FOR THE CONTINUING SUPPORT FOR THIS STREAMBANK STABILIZATION "DEMONSTRATION PROJECT" AND FOR THE OPPORTUNITY TO PRESENT THIS STATUS REPORT. I ALSO WANT TO ACKNOWLEDGE AND THANK BEFORE THIS COMMITTEE OUR FINE SENATORS JAMES EXON AND BOB KERREY FOR THEIR CONTINUED SUPPORT AND DEDICATION TO NATURAL RESOURCES IN NEBRASKA AND THROUGHOUT THE ENTIRE UNITED STATES.

NEBRASKA'S NATURAL RESOURCES DISTRICTS




NORTH PLATTE RIVER
City of
North Platte
Cheyenne
PLATTE RIVER
Lincoln
DEMONSTRATION
PROJECT AREA
SOUTH PLATTE RIVER
Denver

STATEMENT OF JOSEPH L. GOEDERT, BRANCH MANAGER, PEOPLES HERITAGE FEDERAL SAVINGS

Dear Mr. Chairman:

I urge your support for continued funding for drainage within the Kansas Bostwick Irrigation District. I am the Branch Manager of a forty-eight million dollar branch office of Peoples Heritage Federal in Belleville. Being located at the eastern side of the district I feel the irrigation system is a very important part of our economy.

This project has developed severe drainage problems which have adversely affected some of our farm customers. Therefore, I am asking you to please support the District's legislation which would allow non-reimbursable funds to pay for drainage costs. If the funds were approved it would provide a much needed benefit to our area.

Thank you for your consideration of our views concerning this issue.

STATEMENT OF DR. VICTOR C. HURTIG, JR., COURTLAND, KS

Dear Chairman Johnston:

The experiment of gravity irrigation carried out by the Federal government on the Bostwick Irrigation District of Kansas has proved to be an ever present tremendous financial burden for the land owners in the District.

I am a Veterinarian and farmer and I have grown up from childhood in the District. I watched and listened to my deceased father look upon this project with fear as one expense after another was piled into the project. Now his fears have finally become a reality.

The guidance and direction given by the Bureau over the years has compounded rather than simplified the problems in the project.

From the start of the project when fields were being designed for gravity irrigation flow there was little foresight into the future, so therefore, much leveling of land had to be redone.

Then, in time, when subsurface water from irrigation built up to the point it was in everyone's basement of their home, dredging drainage canals were started but this was not the solution-drainage tile proved to be the answer.

At the same time everyone's well water also became contaminated with surface water from the irrigation, so another expense was incurred-rural water.

Now, we have just been through re-evaluation of property taxes and of course irrigated land sky rocketed from one third to 100% of evaluation.

Members of the committee, wipe these unplanned additional drainage funds from your records, declare them--non reimbursible to irrigation.

STATEMENT OF HERBERT E. JOHNSON, PRESIDENT, SWEDISH-AMERICAN STATE BANK

Dear Mr. Bevill:

I urge your support of the Kansas Bostwick Irrigation District #2 request for funding to correct drainage within the district.

This project of 41,888 acres with approximately 506 water users has developed severe drainage problems which has adversely effected some of our farm customers.

I am the President of a seventeen million dollar rural bank located at the headquarters of this project. This irrigation project is of extreme importance to our area and a vital part of our economy.

Thank you for your consideration of our views on this issue which is of great importance to our community and to the customers of our bank!

STATEMENT OF EUGENE FISHER, BELLEVILLE, KS

Dear Sir:

The Kansas Bostwick Irrigation District No. 2 is attempting to obtain some much needed nonreimbursable funds to correct drainage problems and improve the system.

My name is Eugene Fisher, President of Stone Construction Co. Inc. of Belleville, Kansas, having been in this business for 35 years. We do all types of Soil Conservation Practices.

Before the Irrigation District was formed, the soil around Courtland, Kansas was very dry. We have done much land leveling in this area over the years.

When the Irrigation District was formed this was a very good economy boost for the area.

Some of the land is wet now and hard to farm. Drainage ditches have been dug and a lot of tile has been laid, and this has done a lot of good, but much more is needed.

With the present economy, the reappraisal and the repayment, the District now needs help.

Some of the ground needs more leveling which is a big expense to the irrigator.

I believe the Bostwick Irrigation District should be forgiven for the past drainage funds, using back payments for creditation, the original debt.

In this way the District could re-line the laterals and clean out ditches and lay MORE tile.

I want to thank the committee for this opportunity to comment on this very important project.

STATEMENT OF ROBERT W. GILBERT, REPUBLIC COUNTY, KS

Dear Mr. Chariman:

This is to urge your support for Kansas Bostwick Irrigation District No. 2's request for non reimbursable funds to correct drainage problems in the area.

I am Robert W. Gilbert, County Extension Agent for Republic County, Kansas, and have served in that capacity for the past 11 years. When I first started working in Republic County, the drainage problem was already serious and causing severe crop losses. Through the 1970's some drainage work was completed and those areas returned to normal production. However, there are several areas that still need treatment.

As one analyzes the drainage problem, it appears that there were either inaccurate assumptions made or engineering errors made in the original design of the system. Given the soils information, etc, it appears that the drainage should have been incorporated into the original design of the district. Another observation is that much of the seepage seems to parallel the delivery system which makes one think that the delivery system needs attention also.

If the irrigation district is going to regain its prosperity, it is imperative that the drainage projects be completed. Although the financial position of farmers has improved recently, most farmers position is fair at best and they are not in a position to bear any additional assessments to pay for additional drainage projects.

Again, I would urge your committee to support legislation to help the Kansas Bostwick Irrigation District solve its drainage problems.

Thank you for your consideration of this issue.

STATEMENT OF JOHN AYERS, TESCOTT, KS

Dear Mr. Chairman:

My name is John Ayers. I have been a lanowner within the Kansas Bostwick Irrigation District #2 since its inception. I served on the Board of Directors of this district from 1956 through 1975.

During my tenure on the board, I saw drainage problems ruin many acres of farmland, basements, roads, etc. We on the Board of Directors did everything in our power to correct these problems. The Bureau personnel we dealt with recognized the problem to be very serious, and some felt it was overlooked in the planning stages, to initiate the project.

We did make much progress in correcting the problems. The drains which were installed are doing their job.

However, I understand the last Additional Drainage funds borrowed ran 23% short of their planned goal. Now, I'm told the Bureau has identified $20.5 million more drainage which

needs to be done. This Irrigation District has already been saddled with so many drainage problems, it cannot update its delivery system.

The only way the Kansas Bostwick Irrigation District #2 can correct its drainage and make improvements on its system is for Missouri River Basin Power Revenues to pick up some of the load. I know irrigation is picking up a greater percentage of the total project cost than originally planned, because of drainage.

The landowners in this district are paying too much now. The Congress must find an avenue to protect the federal investment in this project, and make the needed improvements.

I strongly urge you and your committee support Congressman Pat Roberts and the Kansas Bostwick Irrigation District #2 in their efforts for funding.

STATEMENT OF CURTIS E. WILLIAMS, BELLEVILLE, KS

Dear Chairman Johnston:

I solicit your support for continued funding for drainage in the Kansas Bostwick Irrigation District, and urge your support for Congressman Pat Roberts' proposal to pass legislation which would help the district solve its drainage problems.

I worked for Soil Conservation Service thirty two years, (1955 until retirement in 1987). My primary responsibility was to assist land owners in design and installation of irrigation systems in Kansas Bostwick District (Republic and Jewell Counties in Kansas. This area of approximately 42,000 acres and some 500 land owners, has an important financial impact on all the communities located in these two Counties.

There has been a continued rise in the water table since water was delivered, adversely effecting the productivity of agricultural land and the City of Courtland as well.

The increased water table has caused prime farm land to be taken out of production, and reduced the productivity of many more seeped acres.

This prime farmland removed from production or having productivity reduced, causes an economic hardship on the producers involved, and the financial impact is felt through out these rural communities.

To help alleviate this continually deteriorating situation, improved drainage and continued updating of the delivery system is imperitive.

In these times of a slumping farm economy and the resulting impact on rural communities, we need this prime farmland in production.

I feel the Board of Directors, and Superintendent, Kenneth Nelson of Kansas Bostwick Irrigation District, are to be commended for their accomplishments with the limited resources available.

Again, I ask for your support for legislation to acquire additional funding, so these projects may continue.

RESOLUTION OF COURTLAND, KS

RESOLUTION NO. 3-8-1989

WHEREAS, the Kansas Bostwick Irrigation District No. 2 provides benefits to our community as well as other communities in Republic and Jewell Counties, and

WHEREAS, the Kansas Bostwick Irrigation District No. 2 was built for the people of the area and the benefit of the people in this area, and

WHEREAS, the District has been plagued with drainage problems, and

WHEREAS, Congressman Pat Roberts is working to create legislation that would allow financial relief to the Kansas Bostwick Irrigation District No. 2.

NOW THEREFORE BE IT RESOLVED that we, the City of Courtland, wish to go on record urging the United States Congress to support Kansas Bostwick Irrigation District No. 2 in its efforts for nonreimbursable funds.

ADOPTED ON March 8, 1989 BY THE COURTLAND CITY COUNCIL

Tim Garrison
Mayor

Cheryl McMullen
City Clerk

RESOLUTION OF JEWELL COUNTY, KS

WHEREAS, the Kansas Bostwick Irrigation District No.2 delivers irrigation water to Jewell County farmers through a system of unlined canals and laterals, and

WHEREAS, the system which was built in the late 1950's and early 1960's is being severely damaged by continuing drainage problems, and

WHEREAS, Congressman Pat Roberts is leading the way to create legislation that would help the District.

NOW THEREFORE BE IT RESOLVED that the Jewell County Board of Commissioners wishes to go on record supporting Congressman Roberts and the Irrigation District in their funding efforts.

ADOPTED ON

March 13, 1989

BY THE JEWELL COUNTY
BOARD OF COMMISSIONERS

Gene L Barnett
Chairman

Chas L. Fogo
Board Member

RESOLUTION OF REPUBLIC COUNTY, KS

WHEREAS, the Kansas Bostwick Irrigation District No.2 which was formed for the purpose of providing irrigation water to its water users through a system of canals and laterals, and

WHEREAS, the system which was built in the late 1950's and early 1960's has reached a point where it needs to be rehabilitated, and

WHEREAS, Congressman Pat Roberts has led the way to get legislation passed through the United States Congress that would help the District.

NOW THEREFORE BE IT RESOLVED that the Republic County Board of Commissioners wishes to go on record urging the United States Congress to support Congressman Roberts'

efforts to obtain nonreimbursable funds for Kansas Bostwick Irrigation District No. 2.

ADOPTED ON
March 15, 1971

BY THE REPUBLIC COUNTY BOARD OF COMMISSIONERS

Mary E. Thompson
Chairman

James W. Kelly
Board Member

Duane Packer
Board Member

ATTEST:

Republic County Clerk

RESOLUTION OF REPUBLIC, KS

WHEREAS, the Kansas Bostwick Irrigation District No.2 provides benefits to our community, and

WHEREAS, the Kansas Bostwick Irrigation District No.2 was built by the United States Bureau of Reclamation, and

WHEREAS, the District has been plagued with drainage problems, and

WHEREAS, Congressman Pat Roberts and the Irrigation District are working to create legislation that would allow financial relief.

NOW THEREFORE BE IT RESOLVED that we, the City of Republic, wish to go on record urging the United States Congress to support Kansas Bostwick Irrigation District No. 2 in its efforts for nonreimbursable funds.

ADOPTED ON
March 1, 1989

BY THE REPUBLIC CITY COUNCIL.

Lula C Dunn
Mayor

Phillip W Bland
City Clerk

RESOLUTION OF SCANDIA, KS

WHEREAS, the Kansas Bostwick Irrigation District No.2 provides benefits to our community and surrounding area, and

WHEREAS, the Kansas Bostwick Irrigation District No.2 delivers irrigation water to this area and to the benefit of the people in this area, and

WHEREAS, the District has continuing damages and deterioration problems, which adversly affect the area, and

WHEREAS, Congressman Pat Roberts is working on legislation that would give much needed relief to the Kansas Bostwick Irrigation District No.2 and the area.

NOW THEREFORE BE IT RESOLVED that we, the City of Scandia, wish to go on record urging the United States Congress to support Kansas Bostwick Irrigation District No. 2 in its efforts for nonreimbursable funds.

ADOPTED 1 March, 1989 BY THE SCANDIA CITY COUNCIL

Mayor

City Clerk

CENTRAL UTAH PROJECT

STATEMENT OF HON. NORMAN H. BANGERTER, GOVERNOR OF UTAH

Senator GARN. The next item on the agenda is the Central Utah Project, and I am very pleased that the Governor of the State of Utah is here to testify on behalf of that project. I believe this illustrates the importance to our State of the Central Utah Project. I think most people are aware that Utah is the second-most arid State in the country and, therefore, water is of critical importance not only to our present population but to the growth of our State and economic development in the future.

And because we do feel it is an absolutely necessary project for those reasons, I am pleased, Governor, that you would take the time to come to Washington. I am pleased to know that you, as Governor of the State, recognize how important water is to Utah and are here to let this committee know about it.

So I will turn the time to you and then introduce the other members of the central Utah board who will speak.

Mr. BANGERTER. Thank you, Senator. It is a pleasure to be here. You mentioned in your remarks that we are the second-most arid State. We started not believing that a few years ago when we had an overabundance of water, but we are now believers again. I have made the statement that everybody talks about the weather, but I

am the only one that did anything about it by pumping the Great Salt Lake. And then it immediately dried up. But we do have those challenges which you indicated.

But it is a pleasure to be here today to represent the citizens of Utah in support of the Bureau of Reclamation's fiscal year 1990 budget request of $116,170,000 for the Central Utah Project. As a Governor must deal with tough budgetary questions on a regular basis, I am sensitive to the many conflicting demands which are placed upon you and other Members of the Congress in determining budgetary priorities. For that reason, I am extremely grateful for your support and the strong support of this committee and the entire Congress and the administration which they have provided to the Central Utah Project in recent years.

As you are well aware, construction of the Central Utah Project languished for several years while troublesome issues were being resolved. But the project was revitalized with strong support from the previous administration and members of this committee.

Facilities for collection and storage of Colorado River water are essentially complete. What is now needed is funding for features which will permit conveyance and utilization of this water in the Bonneville basin. These are the Diamond Fork system and the municipal and industrial system, which include Jordanelle Reservoir.

For the first time in many years, completion of these features is within sight, and, with your continued support and that of the committee, they can be totally in place by the year 1995. This is certainly none too soon. The long, dry summer of 1988 again demonstrated the pressing need for control and development of this most important water supply.

Under the presently authorized ceiling for the Colorado River storage project, both the Diamond Fork and the municipal and industrial systems of the Bonneville Unit, Central Utah Project, can be completed. Unfortunately, this is not the case, as you well know, for the irrigation and drainage system which is intended to convey to central Utah a portion of the water colleted and stored in the Unita basin.

In the months ahead, Congress will be considering legislation to increase this ceiling. This legislation is critical to the completion of not only the Central Utah Project, but to the other badly needed water projects in the upper Colorado River basin. While this legislation may not be within the jurisdiction of the Appropriations Committee, you undoubtedly will have a great interest and impact on its contents.

At the urging of Chairman Udall of the House Interior and Insular Affairs Committee, water and power users from throughout the upper Colorado River basin and representatives of the States have been meeting on a regular basis since last August to reach a consensus on principles which could be supported by all parties. At the last several meetings, representatives of environmental organizations were invited to provide input in this critical area.

While settlement of all the issues is not yet in place, I am confident that such an agreement can be reached in the days that are ahead. Once that happens, we are hopeful that Congress will move quickly to consider this landmark agreement and to approve the necessary enabling legislation.

In conclusion, as you well know, the citizens of Utah have a strong tradition of both hard work and responsible stewardship of natural resources. Our people must continue these traditions. But, in order to achieve even limited economic growth, we also need to be able to take full advantage of our scarce water resources. I have no doubt that, with the strong support we have received from you and this committee in the past, we will see our dreams become a reality in the years ahead.

PREPARED STATEMENT

And I would just like to personally thank you, Senator Garn. You have been involved in this project for a long time and you have been a great asset to us and we appreciate that and your continued support.

[The statement follows:]

STATEMENT OF GOV. NORMAN H. BANGERTER

Mr. Chairman, and Members of the Committee, it is a pleasure to be here today to represent the citizens of Utah in support of the Bureau of Reclamation's Fiscal Year 1990 budget request of $116,170,000 for the Central Utah Project. As a Governor who must deal with tough budgetary questions on a regular basis, I am sensitive to the many conflicting budgetary priorities. For that reason, I am extremely grateful for the strong support which this Committee, the entire Congress and the Administration have provided the Central Utah Project in recent years.

As you are aware, construction of the Central Utah Project languished for several years while troublesome issues were being resolved, but the project was revitalized with strong support from the previous administration and Members of this Committee. Facilities for collection and storage of Colorado River water are essentially complete; what is now needed is funding for features which will permit conveyance and utilization of this water in the Bonneville Basin. These are the Diamond Fork System and the Municipal and Industrial System, which includes Jordanelle Reservoir. For the first time in many years, completion of these features is within sight, and with your continued support, they can be totally in place by 1995. This is certainly none too soon; the long dry summer of 1988 again demonstrated the pressing need for control and development of this important water supply.

Under the presently authorized ceiling for the Colorado River Storage Project, both the Diamond Fork and the Municipal and Industrial systems of the Bonneville Unit, Central Utah Project can be completed. Unfortunately, this is not the case for the Irrigation and Drainage System, which is intended to convey to central Utah a portion of the water collected and stored in the Uinta Basin. In the months ahead, Congress will be considering legislation to increase this ceiling. This legislation is critical to the completion of not only the Central Utah Project but to other badly needed water projects in the Upper Colorado River Basin as well. While this legislation may not be within the jurisdiction of this Committee, you undoubtedly will have a great interest in its contents.

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In conclusion, Mr. Chairman, as you well know, the citizens of Utah have a strong tradition of both hard work and responsible stewardship of natural resources. Our people must continue these traditions, but in order to achieve even limited economic growth, we also need to be able to take full advantage of our scarce water resources. I have no doubt that, with the strong support we have received from you and this Committee in the past, we will see our dreams become a reality in the years ahead.

ISSUE SURROUNDING CUP

Senator GARN. Thank you, Governor, and although you correctly mentioned that legislation for an increase in the authorization ceiling is not before this particular committee, members should note it is not by accident that I now also serve on the authorizing committee that does have jurisdiction over that particular piece of legislation. And it is absolutely imperative that that legislation pass this year.

This project, like the Interstate Highway System, was supposed to be finished in 1972. The major reason for the increases in cost of the project have been due to delays, and if we had finished the project more expeditiously, not only would we have had our water available, but we would not have to face the need to increase the authorization ceiling in order to complete the project. There were a number of years where funding was inadequate because the administration—Carter—did not request enough money. Fortunately, funding has been what we could beneficially use over the last, at least, 8 years since I have been involved, and the Reagan administration was here. That administration is not without some fault for the way it spent funds earmarked for CUP. But, on the whole, things have been better.

I also would like to make the comment that when I was first elected the water commissioner of Salt Lake City 21 years ago, I was young and innocent, and if anybody had told me at that particular time that 21 years later, I would still be working on the Central Utah Project, that it would not be completed, I would not have accepted that. But it is a fact of life. We have had difficulties because of the delays. We have had difficulties because of the overall budget problems of the Federal Government. But even under those difficult budget circumstances, we have done rather well in the last few years in keeping the project going.

But something else pops its ugly head every once in a while. It seems, we get new officials that come along who—Brent Morris—have not been involved, and they want to reinvent the wheel. And the most recent example is a meeting on Monday in Utah County which I was unable to attend. I want the word to go out loud and clear from this Senator, who serves on both committees, who has been around for 21 years working on this project, that I certainly agree with Utah County and Provo City that they are entitled to their water rights. That has never been a question, not once in those 21 years.

I have made personal guarantees that I will make again; Utah County and Provo City are entitled to their historic water rights by agreement. But I do not like to continue to have that questioned, because this water project will not be completed if there are petty disagreements at home. Our opponents will always grab onto those to use an excuse for not going forward.

I want to repeat it very strongly: Commissioner Morris and Utah County Commission and Provo City are entitled to their water rights. And there is at no time when I have ever heard anyone in the district or in the congressional delegation, over a long period of years, who has not told them that. So I am telling them that again.

But this Senator does not respond very well to threats of lawsuits and intimidation. If they want to work with me, I represent Utah County, too; I represent the whole State of Utah, and first of all, we are all Utahans. And this project is of benefit to the entire State. And Utah County and Provo City are entitled to their water rights. I will fight for them just as hard as I possibly can.

I would suggest that they be part of the overall team, because if this project is not completed, we all lose. The whole State loses, every county within the district and Utah County and Provo City loses because, the water, unless we can develop it and beneficially use it, doesn't do any good, because California still gets it. We own it and they get it. And I wish the people of Utah County would understand that fact; unless we can beneficially use it through storage facilities, because of the nature of our State, with needing to be able to store the winter snow melt through the summers and to capture that water so that it can be distributed to all parts of the Central Utah Project, then we all lose.

Well, I am sorry to be so harsh, but as a friend of Utah County who will fight to see that they maintain the water rights they are entitled to by historic agreements, water agreements and exchange agreements within our State. They do not need to threaten, they do not need to intimidate, they do not need to hold public hearings. It causes problems in trying to get this overall project passed here in Washington.

All they have to do is make a phone call and this Senator will make sure that they receive the water to which they are legally entitled. I will protect their rights. But I will also fight to see that this project is completed. I have not spent 21 years of my life to see it go down the drain over the kind of bickering that is going on.

Governor, thank you for coming. If you would introduce others, if they have any——

Mr. BANGERTER. Mr. Bob Hilbert, whose official title, chairman or——

Mr. HILBERT. Chairman of the board.

Mr. BANGERTER [continuing].—Chairman of the board of the Central Utah Project, a longtime friend; you have known Bob, you have wrestled with him. Don Christiansen, the director, general manager of the Central Utah Project.

STATEMENT OF ROBERT HILBERT, CHAIRMAN OF THE BOARD, CENTRAL UTAH WATER CONSERVANCY DISTRICT

ACCOMPANIED BY:

ROSS GARRETT, VICE CHAIRMAN, CENTRAL UTAH WATER CONSERVANCY DISTRICT, AND MEMBER, EXECUTIVE COMMITTEE

JERRY MALONEY, MEMBER, CENTRAL UTAH WATER CONSERVANCY DISTRICT, EXECUTIVE COMMITTEE

DELORA BERTELSON, MEMBER, CENTRAL UTAH CONSERVANCY DISTRICT, EXECUTIVE COMMITTEE

DAVE RASMUSSEN, MEMBER, CENTRAL UTAH CONSERVANCY DISTRICT, EXECUTIVE COMMITTEE

Mr. HILBERT. Thank you, Mr. Chairman, and good morning. I am Bob Hilbert, chairman of the board of the Central Utah Water Conservancy District, and I have a statement which we have given to your staff and introduced as part of the record.

Senator GARN. It will be included in the record.

Mr. HILBERT. Thank you. I would like to highlight a few things. I would like to introduce some of our board that are with us today, Mr. Chairman. We have five members, including myself, of our executive committee: Ross Garrett, from Nefi, Jewett County, the vice chairman of our board and also a member of the executive committee; Jerry Maloney, from Salt Lake County, a member of the executive committee; Delora Bertelson from Utah County, a member of the executive committee, and Dave Rasmussen, from Vernell, who is a member of our executive committee.

The other member of our six-person executive committee was unable to be with us, so we do have, Mr. Chairman, five members of that committee with us. Also, Don Christiansen, our general manager, joins me at the witness table. Also in the audience today, Mr. Chairman, you know them well, LeRoy Hooton and Nick Sefakis will be here on testimony on the Little Dell project, a much-needed project for Salt Lake City proper. They are also members of the board of directors of the Central Utah Water Conservancy District.

And a former board member of the Central Utah Water Conservancy District, Charles Wilson, is here, who is chairman of the Metropolitan Water District Board of Salt Lake City. And also, Salt Lake County Commissioner Tom Shimizu is here, and I am sure he will introduce himself as that testimony proceeds.

I appreciate your comments about the Utah County meeting. Unfortunately, you could not be there, but a member of your staff was there, made several comments, asked several questions of those participating, and I appreciate the comments you have just made.

Our Governor was there and certainly the Governor being there, Governor Bangerter, spending the time to hear those comments, and appreciate your position, your knowledge of what is being said, and your support of the project. I date back, too, a number of years, Mr. Chairman. I was there when you came in as water commissioner, then, to the mayor of Salt Lake City and now in your 15th year in the Senate. And we appreciate your work on the various committees that you have served in the efforts of the Central Utah Project.

As you say, it has been 21 years. I came back 25 years ago as the first year, 1964——

Senator GARN. Well, I am happy I am younger than you are.

Mr. HILBERT. I did not say you were younger than I, I said I was there before—oh, we are about the same age. But we do appreciate your service not only on the Appropriations Committee, but now, certainly on the authorizing committee, you have supported the project and your intimate knowledge of water for Utah, certainly the Wasach Front, is appreciated and you have used it well, and thank you for your effort here on this committee and elsewhere and in the future in the support of the project.

As my written testimony will indicate, we support the President's budget, the amount of monies recommended for the Central Utah Project. We support the Bureau of Reclamation's recommended funding level which will keep the Bonneville unit on schedule for completion by 1995, as the Governor mentioned in his testimony. Although the funding level for fiscal year 1990 is slightly less

than the current year we are in, it does keep the schedule going so we will have a completion by 1995.

Also, within the budget recommendations are section 8 funds which will deal with the fish and wildlife mitigation, which have had a lot of play in the past. And those commitments will—have been honored by the Bureau of Reclamation, and with the funding level that is now in the budget, those projects will move forward in an orderly way.

As the Governor mentioned, we will see stage 2 of the Jordanelle Dam. Stage 1 is now essentially complete; stage 2 will begin, hopefully, within the next month or two. And the funding level for 1980—or, for fiscal year 1990—will include a significant amount of money, some $80 million, for the Jordanelle Dam, which, you know, is needed on the Provo River in supplying water to Utah and Salt Lake Counties, the major portion of Wasach Front.

Also, it will continue the construction of Syar Tunnel, which is the tunnel that will bring water from the Colorado basin into the Great basin or the Wasach Front. And that water will start its westerly trek so that the exchanges can be made for municipal and industrial water and the irrigation and drainage portion, which the Governor mentioned in his discussion. Also, there will be funds for the Diamond Fork project, which is much needed to complete the whole Bonneville unit.

PREPARED STATEMENT

And, again, we just appreciate your past support, we appreciate the opportunity to testify before you today and appreciate the continued support of the project to complete our total facilities by the year 1995.

[The statement follows:]

STATEMENT OF ROBERT HILBERT

Mr. Chairman and Members of the Energy and Water Appropriations Subcommittee, my name is Bob Hilbert, and as Chairman of the Central Utah Water Conservancy District, I want to express our appreciation for the opportunity to testify in support of the Fiscal Year 1990 Appropriations for the Central Utah Project. With me today is Don Christiansen, the General Manager of the District as well as the following members of the Board of Directors: Ross Garrett, Jerry Maloney, Delora Bertelsen, Dave Rasmussen, Mike Sefakis, and LeRoy Hooton. In addition, I would like to introduce former Board member Charles Wilson and Commissioner Shimizu of Salt Lake County. Speaking on behalf of the entire Board of Directors of the District and on behalf of those who will be using the water from this project in the State of Utah, we strongly support the Administration's request of funding in FY 1990 for the Central Utah Project. We continue to endorse the Bureau's program to finish those projects which are substantially completed in order to speed up the repayment schedule and to hasten the actual use of the water and other benefits from these projects.

Mr. Chairman, the Bureau of Reclamation has requested for FY 1990 over $116 million in construction funds for the Bonneville Unit of the Central Utah Project. Section 8 funding requests include $5.4 million for recreation facilities and $13.6 million for fish and wildlife mitigation facilities. The Jensen Unit of the project has a request for $122,000 in order to finish some minor work and to install supervisory controls. The Uintah Unit requires $50,000 in order to continue preconstruction activities for the expansion of municipal and industrial water supply systems in order to meet the needs of the growing population in the Uintah Basin.

The Bonneville Unit of the Central Utah Project is the major unit of the project and, I believe it is important that we

detail some of the activities planned in FY 1990 in the Bonneville Unit which will be over 50% finished at the end of FY 1990. The Bonneville Unit is a multi-purpose water supply system which will provide over 94,000 acre feet of water annually for municipal and industrial use. For irrigation, there will be 25,000 new irrigated acres of farm land and a supplemental water supply to 220,000 other acres of farm land. Recreation, fish and wildlife, flood control, and power will also benefit from the completion of this major unit of the Central Utah Project.

The largest amount of FY 1990 funds for the Central Utah Project will be used for construction of the municipal and industrial water system as part of the Bonneville Unit. Almost $80 million will be spent for continuing work at Jordanelle Dam. Some of the work at the Dam site includes construction of Stage 2 of the Dam. Stage 2 involves the actual Dam construction. Jordanelle Dam is a zoned earth-filled dam of a height of 295 feet. The length of the Dam is 3,500 feet and at its base it is 1,675 feet in length. The Jordanelle Reservoir will have a capacity to store 320,000 acre feet of water.

Further removal of mine tailings from old mines in the area of the Reservoir will continue. Contracts to relocate gas and telecommunication lines will be awarded in FY 1990. Land acquisition activities for the Jordanelle Dam and Reservoir will continue. Preconstruction activities for the necessary clearing at the Jordanelle Reservoir will be undertaken.

The Jordanelle Dam is a very critical part of the Central Utah Project conveyance system for municipal and industrial water. It will provide storage for flows from the Provo River. This high quality water will be utilized by the people in Salt Lake County which continues to experience high growth in population. Jordanelle Reservoir water will help supplement Heber's water supply as well as supply water to parts of Utah County.

Minor work in other areas will be sustained such as the

Jordan aqueduct system as well as preconstruction work on the Upper Provo River improvements.

The other major area of construction to be financed in FY 1990 will be the Diamond Fork power system where another large contract will be awarded to continue construction on the Syar Tunnel. Other activities on the Diamond Fork system include preconstruction at Monk Hollow Dam and Reservoir, and work on the Upper Diamond Fork Pipeline as well land acquisition and road work on the Monk's access. In addition, land acquisition and construction will start on the Lower Diamond Fork Pipeline. Access roads will be initiated at both the Fifth Water Aqueduct and at the Last Chance Power Plant.

The collection system activities and construction schedule includes road work at the Upper Stillwater Dam and continuing filling activities. At the Taylor Canal area drain, monitoring of ground water will be sustained as well as the construction and the installation of drains.

For FY 1990, Mr. Chairman, there is a very ambitious schedule for Section 8 activities. Over $5 million is planned in contract awards for recreational facilities. Access points for fisherman and campground construction are planned. Trail head work, boat ramps, work centers and land acquisition are also part of the activities for FY 1990.

Some of the fish and wildlife facilities planned for FY 1990 are the Developing Wildlife Habitat at Starvation Point Reservoir, Diamond Fork Wildlife land improvements and the aquatic mitigation at Strawberry Exchange. Land will also be acquired for the Jordanelle Wildlife Area, and fishing access on the collection system. New programs for land acquisition include the Ute Wildlife Management Lands, the Duchesne Canal's rehabilitation wildlife water fowl lands and the Diamond Fork mitigation, and lands for fishing access on the Provo River. The total funds for fish and wildlife mitigation in FY 1990 are over $13 million.

Mr. Chairman, the Bureau of Reclamation and the Bureau's Upper Colorado Region have set forth an ambitious construction schedule for next year along with various preconstruction activities, land acquisitions, as well as relocation efforts. We are confident that the Bureau will accomplish the goals set forth for FY 1990. With its long record of accomplishments in Utah and all over the western half of this nation, I believe it is important that we recognize the outstanding professionalism and achievements of the career civil servants in the Bureau of Reclamation. Without the dedicated service of the people in the Bureau and the foresight of those who started the reclamation programs, many parts of the west would still be places good for only tumbleweeds, cactus and jack rabbits.

Mr. Chairman, we restate our plea that Utah is an arid State with a rapidly growing population and requires this water to meet the needs of our ever-growing population. We have one of the youngest median-aged populations in the fifty States so we can expect a continuing rapid growth in the number of people in our State. Water is critical for the development of our industries, cities and farms. It is also crucial for the prosperity of the people of Utah as well as for the quality of life which includes recreation, the beauty of our rivers, canyons, mountains, lakes, fish and wildlife.

Finally, Mr. Chairman, the Board members of the Central Utah Water Conservancy District and I would like to again express our deep gratitude to you for your long time support of our project and also to the other Members of the Subcommittee. We look forward to again visiting you next year.

STATEMENT OF STRAWBERRY WATER USERS ASSOCIATION

Honorable Chairman Johnston and Members of the Sub-Committee:

The Strawberry Water Users' Association urges the Congress to appropriate the full $19,154,000 for recreation and fish and wildlife facilities, Colorado River Storage Project (Utah) as proposed in the President's budget. Of the $19,154,000 to be appropriated, the first $15,000,000 would be paid to Strawberry Water Users' Association in accordance with Public Law 100-563 (102 Stat.2828) and particularly Section 4(e)(2) thereof.

The Strawberry Water Users' Association is a Utah non-profit corporation and currently has approximately 1500 water user shareholders, including the cities of Payson, Salem, Spanish Fork and Springville, comprising approximately 42,000 people. The Association was organized in 1922, for the purpose, among other things, of contracting with the United States Bureau of Reclamation for repayment of the then remaining unpaid construction costs of the Strawberry Valley Reclamation Project. The Project was authorized by the Secretary of the Interior on December 15, 1905, preliminary work was begun in 1906, construction was substantially completed in 1915, and the first water was delivered in 1916.

The Project was operated and maintained by the United States until October 1, 1926, when the care, operation and maintenance thereof, except the Mapleton and Springville Lateral and High Line Canal, were transferred to the Association. On November 30, 1974, the Association paid to the United States the final installment due on the Project construction costs pursuant to its repayment contracts, which included the cost of approximately 56,870 acres of Strawberry Project lands acquired from the Uintah Indians pursuant to the Act of April 4, 1910.

The Project is some 80 years old and is in dire need of extensive rehabilitation due to aging in spite of continuous maintenance and repairs. The Association commenced rehabilitation of a portion of the Project works by reconstructing the Project's major diversion dam on Spanish Fork River and a portion of the service canal at a cost of approximately $7,500,000. In addition, the Association reconstructed the Project's power plant on Spanish Fork River and associated power transmission lines at a cost of approximately $5,500,000. Thus, the Association has already incurred an indebtedness of $13,000,000 for rehabilitation and has identified an additional $42,000,000 of water conservation facilities and power facilities which must be constructed in the near future.

In the mid 1960's, a controversy developed with the recreation, fish and wildlife interests over the Association's management of the Strawberry Valley Project lands. An ad hoc committee was formed in an effort to resolve the controversy. The Association, Reclamation, U. S. Forest Service, Utah State Wildlife Resources and Utah Wildlife Leadership Coalition were all represented on the ad hoc committee.

After more than a year of intensive negotiations with a lot of give and take and many compromises, the conclusion was reached that it would be in the best interest of all to buy out the contractual surface rights of the Association in the Strawberry Valley Project lands at full market value, except for approximately 95 acres, to which the Association would

acquire title. The substance of that settlement is codified in Public Law 100-563 (102 Stat. 2828) which authorized the appropriation of $15,000,000 under Section 8 of the Act of April 11, 1956 (70 Stat. 110) as compensation to the Association for its relinquishment of its contractual surface rights in 56,775 acres of the Strawberry Valley Project lands. Upon payment to the Association, those lands will become a part of the Uinta National Forest and will be administered by the U. S. Forest Service.

The compensation of $15,000,000 to the Association for the relinquishment of its surface contractual rights is based on an independent appraisal by Mardell D. Topham, MAI, ARA, Salt Lake City, Utah. Those funds must be used for Strawberry Valley Project purposes to cover operation and maintenance expenses and for repair and rehabilitation of the Project facilities, title to which will remain in the United States.

The Association has an immediate need for additional funds to continue with its rehabilitation of the Project facilities, and respectfully requests the support of your sub-committee for the appropriation of the full $19,154,000, such that the Association will receive its compensation of $15,000,000, which has been authorized for appropriation by Congress.

LETTER FROM SENATOR JAKE GARN

February 9, 1989

The Honorable Manuel Lujan, Jr.
Secretary of Interior-Designate
Department of Interior
Washington, D. C. 20240

Dear Mr. Secretary:

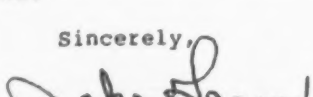
Last year the Congress passed and President Reagan signed legislation to implement a settlement agreement between the Bureau of Reclamation, the United States Forest Service, conservationists and the Strawberry Water Users Association (copy enclosed).

Section 4 (e)(2) of that Act clearly specified that, "of the amounts appropriated hereafter under section 8 of the Colorado River Storage Project (CRSP) Act, the first $15 million shall be paid to the Strawberry Water Users Association."

Unfortunately, Mr. Secretary, neither President Reagan's nor President Bush's proposed budget for section 8 recognizes this requirement. I would appreciate a clarification from you that as Secretary you intend to instruct the Bureau to comply with the law even though expenditures for other Section 8 programs might be delayed.

I would appreciate an early response indicating that you will, in fact, carry out the provisions of the law as its sponsors in the Utah Congressional delegation intended.

Sincerely,



Jake Garn

LETTER FROM MANUEL LUJAN, JR., SECRETARY OF THE INTERIOR

March 7, 1989

Honorable E. J. (Jake) Garn
United States Senate
Washington, DC 20510

Dear Senator Garn:

Thank you for your letter of February 9, 1989, concerning the funding to compensate the Strawberry Water Users Association as required by Public Law 100-563.

This requirement was acknowledged by a note in the Bureau of Reclamation budget supporting documents. Enclosed is a copy of this note which appeared on page 375 of the budget. The Department of the Interior fully intends to carry out the provisions of Public Law 100-563. In order to make the $15 million payment to the Strawberry Water Users Association, other planned Section 8 activities will be delayed.

Sincerely,

Manuel Lujan Jr.

Enclosure

Appropriation Title: Construction Program

RECREATIONAL AND FISH AND WILDLIFE FACILITIES, ARIZONA, COLORADO, NEW MEXICO, UTAH, AND WYOMING - 4

FISCAL YEAR 1990

Work Proposed	Program
Dolores Project, Colorado	
Recreational Facilities - The contracts to develop the Dolores Access Facilities Number 1 and 2 will be awarded and additional land will be acquired for Facility Number 2.	$ 850,000
Fish and Wildlife - Provides for preconstruction activities for Dawson Draw Dam and completion of acquisition of Dawson Draw Dam land.	498,000
Seedskadee Project, Wyoming	
Fish and Wildlife Facilities. - Provides for development of the National Wildlife Refuge including land acquisition.	4,178,000
Wayne N. Aspinall Unit, Colorado	
Fish and Wildlife Facilities - A contract will be awarded for development of Big Game Range. Land acquisition will continue for Fishery Mitigation.	553,000
TOTAL	$28,271,000

Note: The work proposed for FY 1990 does not address compensation to the Strawberry Valley Water Users Association as set forth in Public Law 100-563, dated October 31, 1988.

H. R. 3408

One Hundredth Congress of the United States of America

AT THE SECOND SESSION

Begun and held at the City of Washington on Monday, the twenty-fifth day of January, one thousand nine hundred and eighty-eight

An Act

To authorize additional appropriations for the Central Utah Project, to implement a settlement with the Strawberry Water Users, to expand the John Muir Historic Site, to prohibit the expansion of any reservoir within the boundaries of Yosemite National Park, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. AUTHORIZATION OF ADDITIONAL AMOUNTS FOR THE COLORADO RIVER STORAGE PROJECT.

In order to provide for the continued construction of the Colorado River Storage Project, and for the continued construction of the municipal and industrial water features of the Bonneville Unit of the Central Utah Project, the amount which section 12 of the Act of April 11, 1956 (70 Stat. 110; 43 U.S.C. 620k), authorizes to be appropriated, which was increased by the Act of August 10, 1972 (86 Stat. 525; 43 U.S.C. 620k note), is hereby further increased by $45,456,000 plus or minus such amounts, if any, as may be required by reason of changes in construction costs as indicated by engineering cost indexes applicable to the type of construction involved. This additional sum shall be available solely for continuing construction of the previously authorized units and projects named in such Act of August 10, 1972.

SEC. 2. ENVIRONMENTAL IMPACT STATEMENT FOR IRRIGATION AND DRAINAGE SYSTEM.

Not later than December 31, 1989, the Secretary shall complete an environmental impact statement under section 102 of the National Environmental Policy Act of 1969 (42 U.S.C. 4332) for the Irrigation and Drainage System of the Bonneville Unit of the Central Utah Project and submit such statement to the Congress.

SEC. 3. FISH AND WILDLIFE MITIGATION AND RECREATION.

Of the amounts appropriated for fiscal year 1990 for the construction of the Colorado River Storage Project, including funds previously authorized for fiscal year 1989, such funds in the manner previously scheduled by the Upper Colorado River Basin Office, Bureau of Reclamation, shall be available only for fish and wildlife mitigation and recreation in accordance with the schedule contained in the report of the Committee on Interior and Insular Affairs accompanying this Act (H. Rept. 100-915).

SEC. 4. STRAWBERRY VALLEY LAND COMPENSATION AND EXCHANGE.

(a) PURPOSES.—The purposes of this section are—

(1) to modify the boundary of the Uinta National Forest to include certain Strawberry Valley Project lands currently administered by the Bureau of Reclamation, in order to provide more efficient management for public benefit;

(2) to transfer certain lands, and to compensate the Association for the loss of certain contractual surface rights and interests; and

(3) to provide for rehabilitation of certain of those lands to be administered by the Forest Service for public benefit.

(b) DEFINITIONS.—For the purposes of this section—

(1) the term "Association" means the Strawberry Water Users Association,

(2) the term "Secretary" means the Secretary of the Interior, and

(3) the term "Project Lands" means approximately 56,870 acres of Strawberry Valley Project Lands and includes 95 acres to be transferred to the Association, 25,990 acres of recreation lands associated with the Bonneville Unit of the Central Utah Project, and 30,785 acres of remaining Strawberry Valley Project Lands.

(c) BOUNDARY MODIFICATION OF UINTA NATIONAL FOREST.—

(1) The exterior boundary of the Uinta National Forest shall be modified to include 56,775 acres of the original 56,870 acres of Strawberry Valley Project lands as generally depicted on a map entitled "Boundary Modification, Uinta National Forest", and dated May 1988. The effective date of such modification shall be the date upon which administrative jurisdiction is transferred to the Secretary of Agriculture in accordance with subsection (e)(1)(B). Those lands encompassed by the modified boundary include 25,990 acres of recreation lands associated with the Bonneville Unit of the Central Utah Project and 30,785 acres of remaining Project Lands. Such lands shall be administered by the Forest Service in accordance with applicable laws except that the 25,990 acres shall continue to be managed by the Forest Service as recreation lands in accordance with the purposes set forth in the Memorandum of Agreement between the Department of the Interior, Bureau of Reclamation, Upper Colorado Region, and the United States Forest Service (Contract No. 2-07-40-L3016) dated February 2, 1982.

(2) A map depicting the modified boundary of the Uinta National Forest shall be on file and available for public inspection in the office of the Chief of the Forest Service and appropriate field offices and the House Interior and Insular Affairs Committee and the Senate Energy and Natural Resources Committee.

(d) VALID EXISTING RIGHTS.—

(1) Notwithstanding any other provision of this section, the administration by the Forest Service of the lands described in subsection (c) shall not—

(A) affect or interfere with the authority of the Bureau of Reclamation to construct, operate, maintain, replace, or improve, as necessary, project facilities and access thereto associated with the Strawberry Valley Reclamation Project and Bonneville Unit of the Central Utah Project; or

(B) diminish any other authorized uses of the lands for water resource and power development under Federal law.

(2) The association shall relinquish all of its contractual surface rights and interests, including sand and gravel, in the 56,775 acres of the Project Lands in accordance with subsection (e)(2). Notwithstanding any other provision of this section, all other contractual rights and interests of the Association in the Strawberry Valley Reclamation Project shall remain unchanged. The Association shall be exempt from fees or charges for licenses or permits, other than grazing fees, for project related facilities on Project Lands.

(e) STRAWBERRY VALLEY LAND TRANSFERS, AND OTHER CONSIDERATIONS.—

(1)(A) The Secretary is hereby authorized and directed to convey to the Association 95 acres in fee title of Project Lands, together with all improvements, as shown on a plat appended to the map referred to in subsection (c)(1). This action is consistent with the intent of the Act of April 4, 1910 (chapter 140, 36 Stat. 269).

(B) Within 15 days of payment of compensation to the Association in accordance with subsection (e)(2), the Secretary shall transfer administrative jurisdiction to the Secretary of Agriculture over the 30,785 acres of remaining Project Lands and the 25,990 acres of recreation lands. Management of the surface shall be subject to applicable law.

(C) Notwithstanding any other provision of this section, the association shall retain its contractual rights to issue oil, gas, coal and mineral leases, excluding sand and gravel, on the Project Lands. The authority of the Association to issue such leases and to utilize revenues therefrom as set forth in Interior Solicitor's opinion M-36863 dated August 8, 1972 (79 I.D. 513) is hereby confirmed. All such revenues shall be used and applied to Strawberry Valley Reclamation Project purposes.

(2) COMPENSATION.—There is authorized to be appropriated under Section 8, of the Act of April 11, 1956 (70 Stat. 110; 43 U.S.C. 620g), $15,000,000 as compensation to the Association which shall be available only for such compensation and must be used for Strawberry Valley Reclamation Project purposes. Of the amounts appropriated hereafter under section 8 of such Act, the first $15,000,000 shall be paid to the Association. Upon receipt of such compensation, the Association shall relinquish all of its contractual surface rights and interests, including sand and gravel, in the 56,775 acres of Project Lands.

(3) OTHER CONSIDERATIONS.—The Association shall be entitled to retain the first right of refusal to grazing privileges on the 30,785 acres of remaining Project Lands, and if permitted under the grazing rehabilitation plan pursuant to subsection (f), on the 25,990 acres of recreation lands.

(f) REHABILITATION OF LANDS.—The Forest Service shall, in coordination with the State of Utah and other appropriate agencies begin long-term rehabilitation of Project Lands. Such rehabilitation shall be five years in duration and shall permit continued grazing uses consistent with such rehabilitation. There is authorized to be appropriated under section 8 of the Act of April 11, 1956 (70 Stat. 110; 43 U.S.C. 620g), $3,000,000 which shall be available only for such rehabilitation. The Association shall be held harmless for any costs associated with rehabilitation.

(g) INTERIM RECREATION MANAGEMENT BY FOREST SERVICE.—Until administrative jurisdiction of the 25,990 acres of recreation lands is transferred to the Secretary of Agriculture in accordance with subsection (e)(1)(B), the Congress authorizes and directs the Secretary of Agriculture to expend National Forest System appropriated funds in lieu of Department of Interior, Bureau of Reclamation funds to manage the 25,990 acres of recreation lands for the Strawberry Reservoir adjacent to the Uinta National Forest in Utah. Such expenditures shall be in accordance with the provisions of the Memorandum of Agreement (Contract No. 2-07-40-L3016) dated February 2, 1982.

(h) LAND EXCHANGE.—

(1) AUTHORIZATION.—The Secretary of Agriculture may exchange or sell the National Forest system lands, including any administrative sites and improvements thereon, described in subsection (h)(2). Disposal or exchange of these properties is intended to facilitate the acquisition of administrative sites and offices together with improvements thereon at either Provo, Utah County, Utah or near Heber City, Wasatch County, Utah, as specified by the Secretary of Agriculture. If the sale option is exercised, moneys collected shall be held in a special account intended for this purpose and are hereby authorized for expenditure without further appropiation.

(2) LANDS.—The lands referred to in subsection (h)(1) are those lands which are depicted on a plat, entitled Heber City, Utah, dated April 17, 1978, and May 7, 1978. The plat shall be on file and available for public inspection in the office of the Chief of the Forest Service and appropriate field offices.

(3) REQUIREMENT OF EQUAL VALUE.—If the lands are exchanged, the values, as determined by the Secretary of Agriculture, of the lands and building to be exchanged under this section shall be equal, or if not equal, shall be equalized by the payment of money to the grantor or the Secretary of Agriculture as the circumstances require so long as the payment does not exceed 25 percent of the total value of the land (including any improvements thereon) transferred out of Federal ownership. The Secretary of Agriculture shall make every reasonable effort to keep any such payment to the minimum amount necessary to equalize the values involved.

SEC. 5. BOUNDARY CHANGE FOR JOHN MUIR NATIONAL HISTORIC SITE, CALIFORNIA.

(a) MAP; LAND ACQUISITION.—The Secretary of the Interior is authorized to acquire (by donation, purchase with donated or appro-

priated funds, or exchange) lands and interests in land within the area generally depicted on the map entitled "Boundary Map, John Muir National Historic Site" numbered 426-80,015B and dated July 1988. The map shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior. Lands and interests in lands, within the boundaries of such area which are owned by the State of California or any political subdivision thereof, may be acquired only by donation or exchange. The Secretary of the Interior shall acquire only such interests in the John Muir grave site (as depicted on the map referred to in this subsection) as may be necessary to preserve the site in its present undeveloped condition and to provide all maintenance of the site by the Secretary of the Interior.

(b) INCLUSION WITHIN HISTORIC SITE.—The lands and interests in lands within the boundaries of the area depicted on the map referred to in subsection (a) shall be administered as part of the John Muir National Historic Site established by the Act of August 31, 1964 (78 Stat. 753; 16 U.S.C. 461 note).

(c) AUTHORIZATION OF APPROPRIATIONS.—For purposes of acquiring the lands and interests in lands within the area depicted on the map referred to in subsection (a), there are authorized to be appropriated such sums as may be necessary.

(d) COOPERATIVE AGREEMENT.—The Secretary of the Interior, acting through the Director of the National Park Service, is authorized to enter into a cooperative agreement with the East Bay Regional Park District of Oakland, California, for the operation and maintenance by such District of trails on lands within the John Muir National Historic Site.

SEC. 6. YOSEMITE NATIONAL PARK.

Notwithstanding any other provision of law, no Federal lands may be used for the expansion of the capacity of any reservoir which is located within the boundaries of Yosemite National Park unless Congress enacts specific statutory authorization after the date of the enactment of this Act for such expansion.

Speaker of the House of Representatives.

Vice President of the United States and
President of the Senate.

STATEMENT OF DON CHRISTIANSEN, GENERAL MANAGER, CENTRAL UTAH WATER CONSERVANCY DISTRICT

Senator GARN. Thank you, Bob. Don, do you have anything you wish to add?

Mr. CHRISTIANSEN. I would just second everything that the Governor has said and that our chairman, Mr. Hilbert, has said, and add to that, with some degree of pride, the involvement of the Central Utah District in recent years in working with the Bureau of Reclamation to effect a more efficient operation and to more effectively use the funds that this committee has helped us acquire over the last number of years. So, thank you for your efforts and we appreciate them very much.

Senator GARN. Thank you very much, gentlemen.

Governor.

WATER RIGHT SETTLEMENT

Mr. BANGERTER. I want to just say one other thing, Senator. You mentioned the issue of water rights and protecting those particular water rights. And, as we met with these folks on Monday, I reiterated that, and, of course, as you know, as a Governor, we are very interested in maintaining our State primacy on water issues.

And as we dealt with the Provo River a year ago on stream flows, I think you are well aware that we did that, and everyone ought to be aware that we did, by dealing with those who held the water rights. And so, that is—you are 100 percent right and we are 100 percent in agreement that existing water rights have to be protected, will be protected, and are not the issue.

The issue is whether we are going to have enough water in the dry years, and we have found how quickly that comes after some very wet years. And all of the time we were working on other projects to get rid of excess water, we were being pressed by people to store more.

And we would just like the people of Utah to know that is what we are trying to do is store more water so that when those dry years come, we are in a better position to deal with it. Thank you very much.

Senator GARN. Oh, absolutely, and with Bob here, he knows very well the setup of Metropolitan Water District and Salt Lake's excess water. If you do not have excess water, it does not matter that he is entitled to that excess water, it is not there; it does not matter what the paper says.

And we have so many of those types of agreements at home that, to argue with each other does not make any sense when, if there is not sufficient water, the agreements end up being meaningless. So I appreciate you making that comment. Thank you very much.

Mr. BANGERTER. Thank you.

LITTLE DELL LAKE, UT

STATEMENT OF M. TOM SHIMIZU, COMMISSIONER, SALT LAKE COUNTY

ACCOMPANIED BY:

CHARLES W. WILSON, CHAIRMAN OF THE BOARD, METROPOLITAN WATER DISTRICT OF SALT LAKE CITY

NICK P. SEFAKIS, GENERAL MANAGER, METROPOLITAN WATER DISTRICT OF SALT LAKE CITY

LEROY W. HOOTON, JR., DIRECTOR, SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

Senator GARN. Next, I would like to invite Commissioner Shimizu and Nick Sefakis to come up. Charlie Wilson and LeRoy Hooton, to testify on behalf of the Little Dell project.

Commissioner.

Mr. SHIMIZU. Thank you, Mr. Chairman. I appreciate this opportunity of testifying to the subcommittee and to the other committee members.

We are the local sponsors of the Little Dell Lake project, which is a project about 6 miles east of Salt Lake City, as you are aware. And this is a joint project with the Metropolitan Water District of Salt Lake City and Salt Lake County. The State of Utah also had a part in the development of this project. We are all representatives of this local group.

The project is the Little Dell Lake, Utah project, which is a 20,500-acre/feet reservoir. And right now we are about in a third year, the third phase of this project. What we are requesting is that the committee support the President's budget recommendation of $11.3 million to go into the construction of the main portion of that dam. We have already raised our portion of it.

This is a little bit unusual in that this is one of the first projects which we are sharing in the cost of the project. We are sharing approximately 50 percent. That means that Salt Lake City, for the water supply, has provided their portion of $50 million, plus Salt Lake City has provided the land; Salt Lake County has provided nearly $8 million and we have taken steps and already raised those funds, and so it is really a cost-sharing project.

What has been completed up until now is that we have been able to relocate the road and the utilities. The core trench excavation has taken place and we have also put in some test fills. And now we are ready for bidding, and I think the bidding is going to go out approximately April 17, which is next week. And so, we are right on schedule.

What our situation of course, is in Salt Lake and in the State of Utah—and these are just a couple of points that I wanted to make—as you are aware, we are a very dry State. This area, which is really the midsection of Salt Lake City, in 1952 and 1983, had a major, had major floods.

It seems like every year, however, we have some kind of a problem, maybe not quite to that extent, but we do have problems just about every year when we have heavy rains. And we have to store that water so that we can protect it from floods and also store the water so that the people in Salt Lake City will have drinking water.

The concept started back, really, as I heard from one of our engineers, back in the late 1930's. However, the real intensified effort was made starting back in the 1950's, when the flood hit us.

And when you were on the Council of Mayors, Senator Garn, you were very aware of the project.

And so it is one that is kind of a life-or-death situation for us, both in flood control and in water supply. As I said, this is one of the first projects that was funded under the new cost-sharing policy. It is really a model and a prototype of what is here and what is to come.

And we would like to thank you, Senator Garn, for the role that you have played in this project when you were on the local level. And because of your efforts, I am sure that this project is in place at this time.

PREPARED STATEMENT

We would like to also thank the Corps of Engineers and Congress for providing the funds up till now, and hope that they will now continue the funding so that we can complete this project in the next 2 years.

Thank you very much.

[The statement follows:]

STATEMENT OF M. TOM SHIMIZU

Honorable Chairman Johnston and Subcommittee Members:

My name is M. Tom Shimizu, Salt Lake County Commissioner, representing the local sponsors of the Little Dell Lake, Utah Project--The Metropolitan Water District of Salt Lake City, Salt Lake County and Salt Lake City Corporation and I wish to submit the following written statement and testimony in support of continued funding of the Little Dell Lake, Utah Project:

The sponsors are in unanimous support of the President's fiscal year 1990 budget recommendation to the Congress of the United States for funding of the project in the amount of $11.3 million. The sponsors have bonded and have made available their share of the project costs in accordance with the June 10, 1986, Local Cooperative Agreement (LCA) for the Construction Funding Plan. The requested fiscal year 1990 appropriation will continue the construction of the main dam, outlet works tunnel and related appurtenances. The bid opening for this phase of the project will be on April 17, 1989, at Hill Air Force Base in Clearfield, Utah. Thus far, the project has moved forward on schedule with the relocations of State Highway 65 and utilities during the 1987 construction season and the dam core trench excavation and test fills that were completed during the summer construction season of 1988.

The Little Dell Lake, Utah Project is very important to the citizens of Salt Lake City and County as it will provide much needed flood control to Salt Lake City's 1300 South floodplain which has experienced two major floods in recent history. This area of watershed also provides drinking water supply to meet the growing demands of the Salt Lake Metropolitan area. The project was initiated after the 1952 spring snowmelt flood which inundated the 1300 South floodplain inflicting large scale damage and causing significant cleanup expenses. The Army Corps of Engineers was asked to assist in controlling future floods and

their recommendation was to construct the Little Dell Lake, Utah Project. Subsequently, the project was authorized by Congress under the 1968 Flood Control Act and Water Resources Development Act of 1976. The project moved ahead with site investigation and preliminary planning until 1983, when the area was again hit with high snowmelt runoff which required extensive flood control efforts to avoid widespread flooding. As a result of this episode and through the resolve of the local sponsors and the assistance of the state's Congressional Delegation, the project was initiated on June 10, 1986, when the local sponsors and the Army Corps of Engineers signed the Local Cooperative Agreement in Salt Lake City.

The project was one of the first federal projects to be funded under the new cost-sharing policy. At the Local Cooperative Agreement singing ceremony, Mr. Robert K. Dawson, then Assistant Secretary of the Army for Civil Works, said that the Little Dell Lake, Utah Project is one of the first in the nation under the new cost-sharing program and was "...a model - a prototype - for future water resource development... It shows that water development can continue in the face of severe budgetary constraints." The local sponsors are proud to be a part of this pioneering effort in water project financing with the federal government and urge Congress to continue supporting this "model" project by keeping funding levels adequate to complete the project on schedule and on budget.

The local sponsors have put into place their portion of the cost-sharing funds for the successful completion of this vital project. The funding and support has been contributed by the State of Utah, Division of Water Resources, Metropolitan Water District of Salt Lake City and Salt Lake County. Salt Lake City has donated the land. Clearly, this is a project supported at all levels of government and demonstrates our commitment to this project.

We would like to compliment the Army Corps of Engineers Sacramento, California District for their splendid cooperation in making this project truly a joint effort by the Federal Government and the local sponsors.

Mr. Chairman and Subcommittee Members: The sponsors emphasize the importance of the continued adequate funding of the Little Dell Lake, Utah Project and express appreciation to Congress for its support of this important project. We look forward to working closely with the Army Corps of Engineers in the completion of this "model" project.

LETTER FROM UTAH DEPARTMENT OF NATURAL RESOURCES

March 29, 1989

J. Bennett Johnston, Chairman
Sub-committee, Energy and Water Development
United States Senate
Committee on Appropriation
Washington, D.C. 20510-6025

Mr. Johnston:

The purpose of this letter is to indicate the Utah Board and Division of Water Resources' support for the Little Dell Water Development project. This is a much needed project that has been investigated and held in reserve for a number of years. It will provide flood protection for Salt Lake City and Salt Lake County, as well as develop a valuable water resource which will provide water for domestic use in Salt Lake City.

The project is also unique in that it incorporates a new cooperative method of cost sharing involving the Corps of Engineers, the State of Utah, Salt Lake County, Salt Lake City, and the Metropolitan Water District. The involvement of the State with the federal government in planning, developing and funding flood control and water projects could certainly open up a new era in water development. We wholeheartedly support the testimony of Tom Shimizu and encourage you to approve a budget of $11.3 million for FY90 to keep this much needed project moving.

Thank you,

D. Larry Anderson

D. Larry Anderson, P.E.
Director

LETTER FROM SALT LAKE COUNTY BOARD OF COMMISSIONERS

April 3, 1989

The Honorable M. Tom Shimizu
Salt Lake County Commissioner
Rm. N2100, Government Center
Salt Lake City, Utah

Dear Commissioner Shimizu:

The Board of County Commissioners, at its meeting held this day, approved the attached statements to be made before the United States Senate and House regarding funding for the Little Dell Lake, Utah Project.

Pursuant to the above action, you are hereby authorized to present the statements to both bodies on April 5, 1989.

Very truly yours,

BOARD OF COUNTY COMMISSIONERS

H. DIXON HINDLEY, COUNTY CLERK

By Isabella Velasquez
Deputy Clerk

LETTER FROM SALT LAKE CITY CORPORATION

March 27, 1989

Mr. J. Bennett Johnston
Chairman, Subcommittee on Energy
and Water Development
United States Senate
Committee on Appropriations
Washington, D.C., 20510-6025

Dear Chairman Johnston:

Salt Lake City Corporation totally endorses the testimony of M. Tom Shimizu, Salt Lake County Commissioner, in support of funding the Little Dell Lake, Utah Project, with an appropriation of $11.3 million for the fiscal year 1990 budget.

This project is of vital importance to Salt Lake City in protecting the 1300 South floodplain and providing critically needed municipal drinking water.

Sincerely,

Palmer A. DePaulis

Palmer A. DePaulis
Mayor

LETTER FROM METROPOLITAN WATER DISTRICT OF SALT LAKE CITY

March 29, 1989

Dear Honorable Chairman Johnston and Subcommittee Members:

As Chairman of the Board of the Metropolitan Water District of Salt Lake City, I am pleased to write this letter in support of the congressional funding for fiscal year 1990 regarding the Little Dell Lake, Utah, Project. This project is one of the first major water projects in the country to be constructed using a federal/local cost-sharing principle with the Federal Government providing 58% of the funds and the local interests sharing 42% of the cost. The project commenced with the relocation of State Highway #65 in 1987, which was completed at approximately $2,000,000 under the engineer's estimate. In addition, in 1988 the core-trenching and test fills contract was also completed slightly under the budget of $900,000. Total project cost is estimated to be approximately $53,000,000.

The U. S. Army Corps of Engineers is requesting $11,300,000 as the Federal Government's portion for fiscal year 1990. The main dam construction bids will be opened on April 17, 1989. Current estimates from the Corps of Engineers indicate that the project will be completed in the fall of 1991.

In order for the project to be completed on schedule, our District would sincerely appreciate your committee's support in providing the necessary funding for fiscal year 1990 of this important flood control and water supply project.

Sincerely,

Charles W. Wilson

Charles W. Wilson
Chairman

Senator GARN. Thank you, Commissioner. I would suggest that this cost-sharing program came about prior to we developing the Federal cost-sharing program back here. It was a local initiative that, it was decided that we would, while discussion was going on back during the Reagan years about a new policy, local government officials in Utah were making an offer that I did not think the Feds should turn down.

So I think it is a model, because it came from our initiation, rather than being imposed on us by the Federal Government.

Nick, do you have anything you wish to add?

Mr. SEFAKIS. Thank you, Senator Garn.

It is a pleasure for me to be here today to state that on June 11, 1988, we had the official groundbreaking ceremony to commence the dam construction.

And we started with the Corps trenching and test fills. And on April 17, as Commissioner Shimizu has mentioned, we will have our main dam construction bid opening.

We are enthusiastic about the project. It has been nearly 50 years in the planning stages. We know it will be a real asset and a plus for both Salt Lake City and Salt Lake County to provide that much-needed flood control; it will provide approximately 8,000 acre-feet of water on an average annual yield.

And so we are very pleased that Congress has supported us and we are pleased to be here today.

Thank you.

Senator GARN. Thank you, Nick.

It is nice to have people say how much I had to do with this, but I would like you all to know that I was in grade school when Charlie Wilson started working on Little Dell. So, if we want to introduce the real father of Little Dell, it is Charlie Wilson.

Charlie.

Mr. WILSON. Thank you, Senator. And I have appreciated our long, close relationship, and the positive help that you have been with water projects. And it is a little redundant for us to come and explain Little Dell to you, because you were there.

Senator GARN. You taught me everything I know about it in 1968.

Mr. WILSON. Thank you. But, anyway, you were a very apt pupil; I might put it that way.

We are anxious, of course, to keep this project on schedule. I think that is a little unusual, too, from my past experience. And I have a letter in support of Commissioner Shimizu's testimony. As you know, of course, the project construction has proceeded well. We have appreciated the cooperation we have had from the staff of the Army Corps of Engineers.

I have been a long observer of this project development. And this, I believe, has been a bit unique. The cooperation has been very fine. And things have moved along very well. And we are on schedule, we are under estimates on both portions that have been completed at this point.

And we thank you for the help that you have been, and the terrific support that we have had.

And I might state, too, Senator, that we also agree with your statement, as far as water rights are concerned. And certainly we

need cooperation among the counties and the water users in the State if we are going to complete our projects in a timely manner.

And thank you very much.

Senator GARN. Thank you.

Leroy.

Mr. HOOTON. Senator Garn, I appreciate being here today. I support the testimony of my colleagues and appreciate the support of yourself and the Congress in the completion of this vital project to Salt Lake City.

Senator GARN. Thank you.

Let me just close by, not for your benefit, but for the benefit of the record, so that people understand the difference between the Central Utah Project and Little Dell Lake. The CUP is primarily designed to bring water from the eastern part of Utah, through a series of tunnels and diversion dams and so on, so we can beneficially use Colorado and Provo River water.

What is not widely known is that even in very dry years, I do not know of any years that there is not sufficient snow pack to provide enough water in Salt Lake County. Our problem is our ability to store it.

And so Little Dell is not the large project that CUP is, it is a small project simply to capture water that is already there east of Salt Lake City, that does not need all of the diversion dams and tunnels of CUP to bring water to the Wasach Front.

And even with the completion of Little Dell, there is still a good deal of water that we are not beneficially able to use as a result of not being able to store it.

We simply lose it into the great Salt Lake, which then causes the Governor to have to build pumps and pump it out into the West Desert where it is not useful water for most purposes, again.

I just wanted to make that distinction, as my colleagues and staff read the record, to make certain they understand the difference between the two projects.

And if we cannot store Little Dell Creek water, it just simply runs through town, causes flooding problems; and that is another aspect that is not talked about.

I can remember in my first testimony before a congressional committee more than 20 years ago, that I felt we could justify Little Dell on the basis of flood control alone. And I still feel that way.

And I think you can see that during some of the difficult years, the latest time of 1983, if Little Dell had been in place we probably would have paid for the entire cost of the dam through savings in damages that occurred in Salt Lake City and County during that particular heavy run off cycle.

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Senator GARN. Before we conclude the hearing the staff indicates that the State of Florida, the Nebraska Sierra Club, and a statement from the Kentucky-Cumberland Coal Co. have submitted statements for the record.

[The statements follow:]

STATEMENT OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Mr. Chairman and members of the Subcommittee, I am pleased to present to you Florida's Fiscal Year 1990 Program for Water Resources Development . We strongly support this program, which is a request for appropriations of 94 million dollars for 44 studies and projects. I am submitting, along with my prepared remarks, a booklet containing project descriptions, jusitifications and costs.

Before I begin my specific remarks about Florida's FY 90 program, I must express our sincere appreciation to the Subcommittee, to the Florida Delegation, and to Congress as a whole, for previous Florida water resource appropriations. It has made a big difference to Florida. We depend heavily on the flood control, navigation, and beach erosion control work that you authorize and fund and that the Army Corps of Engineers so diligently constructs and maintains.

This has been true for over a hundred years in Florida. Today, we have a population of 12.5 million people and have become the fourth largest state. Our need for proper water resource management is under pressure as we handle the needs of new residents and almost 40 million visitors each year. Our diverse water resources, combined with a warm subtropical climate continue to be major attractions for both visitors and new residents, but it also places new burdens on us.

In our effort to protect and conserve what we have, Florida has been a national leader in water resource management. We are heavily involved in traditional water resource projects, but also have sponsored innovative programs. For example, we have been active in the acquisition of floodplains and beaches and beach access and we have an outstanding wetlands protection program that is now 5 years old. Over the last two decades, Florida has invested 750 million dollars in the purchase of two million acres of natural areas. We will invest over a billion dollars more in the next decade. Most of these acquisitions are for the special lands most vital to the State's water resources.

Clearly, strong protection and wise management of our water resources are in the best interest of our state and our nation. As Florida grows, it is our hope that Congress and the Corps will continue support for our needs.

Individual Projects

Now we present some of the highlights in the FY 90 program request. Instead of giving you a lot of facts and figures, I will discuss just a few of the more important and innovative projects and studies proposed for FY 90. The details on each project are contained in the program booklet we submitted.

Flood Damage Prevention and Water Supply

Under the category of "Flood Damage Prevention and Water Supply", funding is needed for one of the nation's largest and most complex water management systems: the Central and South Florida project. Recent trends in water quality underscore the need for State and Federal participation in the management of Lake Okeechobee and the entire south Florida water system. Without wise management, Lake Okeechobee (one of our country's

largest lakes) could have its water quality so impaired that it could seriously affect its outstanding recreational and water supply functions. Further deterioration of Lake Okeechobee could also damage the special wetlands ecosystem of the entire southern portion of Florida, including the Everglades. The Central and Southern Flood Control Project also provides flood and hurricane protection, as well as important agricultural water supply.

Another major component of the Central and South Florida Project , the Upper St. Johns River Project, is a non-structural flood control project which is now being implemented. The project will reduce flood damages and increase water supplies, while enhancing the natural environment through wetlands enhancement. This is one of those Florida projects with a local cost share much higher than usual. Approximately seventy-five percent (75%) of the $107 million project cost will be assumed by the local sponsor.

Navigation

Ports are extremely important to Florida. We have fourteen deep water ports, which include some of the nation's busiest. Import and export traffic helps to diversify our economy. Our FY 90 request would fund studies at some ports and construction at others. Our current request includes funds for eight port projects, four navigational passes and the Miami River Cleanup Project. The Miami River project proposes to dredge polluted bottom sediments from the river. This will help to correct water quality problems which have developed over many years. In the Water Resource Development Act of 1986 you authorized the Corps of Engineers to remove the sediments.

Beach Erosion Control

Beaches are, by far, the largest attraction for the 40 million people who visit Florida each year. We have 800 miles of sandy beaches in Florida. About 140 miles of those beaches are experiencing damaging erosion. The ability to help control that erosion is critical to Florida's beaches and to much of our economic base.

Again, the State has also been doing a great deal on its own. We have committed over 250 million dollars to purchase many miles of coastline. Additionally, over 30 million dollars has been invested by the State since 1965 on beach restoration projects. In 1987, the State initiated a Comprehensive Beach Management Program and appropriated 10 million dollars for beach projects. Most of these are local cost-share funds for Federal projects. Your assistance is critical in this partnership.

Environmental Restoration and Enhancement

Restoration and enhancement of water resources in Florida is a vitally important subject. Our economy and quality of life are dependent on maintaining the environment that we have. One of our major goals is to broaden the scope of Federal participation to include studies and projects that address the need for restoration and enhancement of certain problem areas. For FY 90 we have added the Biscayne Bay Survey Review which will study cumulative environmental impacts to Biscayne Bay caused by previously authorized projects.

Management Model

Mr. Chairman, let me take this opportunity to indicate the State of Florida's support for Section 11 of Public Law 100-676, legislation authorizing funds for a Simulation Model of South Central Florida Hydrologic Ecosystems. Congressman Tom Lewis has worked hard on it, and we support his efforts.

The State looks forward to working with the Army Corps of Engineers regarding this matter and encourages the Subcommittee to provide funding for this management model system.

Conclusion

We want you to know that we affirm the State of Florida's commitment to water resources development as outlined in our program booklet. We look forward to working together with the Congress to achieve these goals.

FY 1990 PUBLIC WORKS PROGRAM

LETTER FROM SECRETARY DALE TWACHTMANN

March 21, 1989

Honorable J. Bennett Johnston, Chairman
Energy and Water Development Appropriation Subcommittee
U. S. Senate
Washington, DC 20510

Dear Senator Johnston:

We have enclosed the State of Florida's Fiscal Year 1990 Program of Public Works. This document contains the unified program of public works projects and studies that are consistent with the State's goals and objectives.

For FY 1990, we received 57 public works applications. All were circulated for review and comment through the State's clearinghouse of state and regional agencies. Summarized in this booklet are 44 projects and studies which are recommended for federal funding.

We appreciate support in past years for the operation and maintenance, study, and construction of public works in Florida. We look forward to working with you on the FY 1990 request.

Sincerely,

Dale Twachtmann

Dale Twachtmann
Secretary

INTRODUCTION

This document presents the FY 1990 unified program of Public Works studies and projects that have been determined to be consistent with the goals and objectives of the State of Florida. As provided in Chapter 373, Florida Statutes, the Department of Environmental Regulation (DER) is directed to select those water resources projects that provide for the "public welfare and interest of the people of the state as required for the proper development, use, conservation, and protection of the waters of the state." After selection, these projects are presented to the appropriate Federal agencies and the Congressional Appropriation Committees.

The State's annual public works program begins each February with the Water Resources Development Conference. Following the conference, proposals are evaluated through the State and Regional Intergovernmental Coordination and Review Process. The scope of this review includes technical adequacy and completeness, as well as general conformance with applicable State and regional goals, policies, and objectives. The results of this review are carefully evaluated. Each study and project submitted is considered for inclusion in the State's program.

Projects are grouped into four categories: Flood Damage Prevention, Navigation, Shore Protection, and Environmental Restoration and Enhancement. Estimates of cost are derived from local sponsors and the Army Corps of Engineers. The descriptive narrative and justification statements included in this booklet are developed using data provided by local sponsors, the Army Corps of Engineers, DER staff, and other sources.

A Department recommendation for funding does not indicate the granting of any applicable permits at either the State or Federal level. In most instances, some form of permit must be obtained, unless waived through a separate process, and the securing of these permits remains a responsibility of the local sponsor.

FLOOD DAMAGE PREVENTION

Broward County Study (Comprehensive Water Management Plan) (Study)

Estimated Federal Cost	$475,000
Estimated Nonfederal Cost	375,000
Federal Funds Through FY 89	100,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	150,000

History/Description

Broward County is experiencing rapid growth, which is exacerbating flood control and water supply problems. As the local sponsor, Broward County is seeking assistance from the Army Corps of Engineers for its current planning efforts which include: 1) protecting the sole-source Biscayne Aquifer from pollution and salt-water intrusion, 2) developing methods for increasing water supply and decreasing demand through conservation, and 3) planning and designing structures for water control and supply. The study received congressional authorization on August 12, 1986.

As part of the Central and Southern Florida Flood Control Project authorized by Congress, the Corps of Engineers has studied this area at a regional level. Assistance is requested from the county to address specific county-wide concerns. Funding of $150,000 is requested which would be used to: 1) identify sources of reclaimed water acceptable for use in creating a non-saline barrier, 2) selecting recharge and irrigation sites, 3) planning, designing, and projecting the future costs of water supply/flood control structures, and 4) analyzing water quality.

Justification

The project would provide the following benefits to Broward County: 1) insurance of a continued supply of unpolluted, potable water to county residents and visitors, 2) provision of flood protection, and 3) allowance for the scheduled development of future water resources construction and water supply facilities.

Central and Southern Florida Flood Control Project
(Studies, Preconstruction Engineering and Design and Construction)

Estimated Federal Cost	$872,000,000
Estimated Nonfederal Cost	525,003,000
Federal Funds Through FY 89	330,435,000
Nonfederal Funds Through FY 89	153,889,000
State of Florida Request FY 90	35,470,000

History/Description

The Central and Southern Florida Flood Control Project is a massive system of water control works first authorized by Congress in 1947. The project area encompasses approximately 17,930 square miles over all or part of sixteen counties and includes the Kissimmee River Basin, Lake Okeechobee and its regulatory outlets, the Everglades, and the lower east coast of Florida. While the initial purpose of the project was primarily flood control, its objectives were expanded by the Army Corps of Engineers and Congress in 1968 to provide for increased storage and conservation of water and improved distribution of water throughout the project area. Especially important in this year's program are components to preserve and enhance Lake Okeechobee. This lake (Florida's largest) provides important benefits for a very large part of South Florida including flood control, water supply, recreation, and critical habitat for many species of wildlife.

Lake Okeechobee is under considerable stress from heavy nutrient loading. The Lake Okeechobee Technical Advisory Council (LOTAC II), composed of a broad spectrum of interests and technical expertise, published an Interim Report in February 1988 that contains recommendations to improve water quality in the lake. Some of these recommendations pertain directly to the Central and Southern Florida Flood Control Project. The State wishes to emphasize its commitment to restoring, preserving and protecting Lake Okeechobee and looks forward to working closely with the Corps to achieve this end.

The local sponsor, the South Florida Water Management District, has requested the following project components for FY 90:

(A) Hillsboro Canal Survey Review. This feasibility study will evaluate alternative means of reducing flood damages in the basin. It

will also evaluate possible measures for increased flexibility in discharges from Water Conservation Area 1. FY 90 funding request is $100,000.

(B) C-111/South Dade Flood Control Project. This planned modification of an existing canal is intended to restore more natural water regimes to part of Everglades National Park without lowering existing levels of flood protection for other areas. FY 90 funding is for $205,000.

(C) Herbert Hoover Dike Project. Continuation of construction work on the Herbert Hoover Dike Revetment will protect the integrity of the existing dike from erosive wind and wave action at upper stages of water level regulation. FY 90 funding is for $4,255,000.

(D) Shingle Creek Basin Project. This is expected to reduce flood damages while also generating some environmental improvements in the basin. FY 90 funding is for $1,992,000.

(E) St. Lucie Canal Stabilization. This will reduce serious bank erosion problems in the existing canal. FY 90 funding request is for $100,000.

(F) Repowering of Pump Stations 6 and 9. These are purely replacement works and involve no change in project operation. FY 90 funding request is to be determined.

(G) Shark River Slough Restoration (East Everglades National Park). The restoration is planned to create more natural flow to Everglades National Park and Northeast Shark River Slough, improve recharge to public wellfields, and provide flood protection to certain areas. A draft GDM is not yet available. FY 90 funding request to be determined.

(H) Bolles and Cross Canal Improvements. The benefits from improving these canals include flood reduction in the Everglades Agricultural Area and reduced backpumping to Lake Okeechobee. A GDM is not yet available. FY 90 funding is to be determined.

(I) Taylor Creek-Nubbins Slough Diversion/L-8 Water Supply. The proposal is for a water quality enhancement/water supply project. The Taylor Creek-Nubbins Slough component is designed to reduce phosphorous loading to Lake Okeechobee, while the L-8 component is designed to replace the water supply losses resulting from the Taylor Creek-Nubbins Slough component. Both components act in concert to provide for improved water quality and water supply. FY 90 funding request is for $600,000.

(J) Rehabilitation of S-44 on Canal 17. This would improve the capacity of the structure in northern Palm Beach County to release flood waters. A GDM is not yet available. FY 90 funding request is to be determined.

(K) Reconstruction of Hurricane Gates 3 and 5. Replacement work. FY 90 funding request is for $1,525,000.

(L) Golden Gate Survey. This would help reduce serious water and land resource problems in southern Collier County. Corps assistance on plan refinement is necessary. Depending on the restoration plan finally selected, the assistance of the Corps on project implementation may also be requested. FY 90 funding request is to be determined.

(M) C-51 East Project. This is to dredge the canal from Kirk Road to the Turnpike to the designed bottom elevation for increased capacity. FY 90 funding request is for $700,000.

(N) Western C-51 Project. The Corps and the Water Management District are reevaluating this controversial proposal for a new flood control pump station at the north end of Conservation Area I and the enlargement of the western part of the C-51 canal. Among the alternatives under consideration is a flood detention area in the Western C-51 basin. A report is expected to be released for review in October or November of this year. If no problems are encountered during the reviews of this report or during land acquisition, construction could begin in FY 90. FY 90 funding request is for $4,332,000.

(O) Kissimmee River Restoration This is to construct Phase II of the Kissimmee River Project which is designed to restore the river channel to its former meandering path. This phase includes 15.3 miles of the river, about one-sixth of the original course. Funding request for FY 90 is for $6,000,000.

(P) S-4 Nutrient Reduction Study. This study is to determine the feasibility of reducing the phosphorous load to Lake Okeechobee by diverting the outfall of S-4 Pump Station, presently being pumped into the lake, into the Caloosahatchee River. This project was recommended by the Lake Okeechobee Technical Advisory Council. FY 90 funding is to be determined.

Justification

In the first half of this century, heavy seasonal rains combined on several occasions with the passage of hurricanes to cause extensive long-lasting flooding. The C&SFFCP and its local sponsor, the SFWMD, are the result of Federal and State responses to the severe flooding of 1947. South Florida also experiences periodic severe droughts. In 1968 the project was expanded to include increased storage and conservation of water and improved distribution of water throughout the project area. Special emphasis is being given in the future to the maintenance and enhancement of Lake Okeechobee.

Four River Basins Project
(Construction)

Estimated Federal Cost	$156,000,000
Estimated Nonfederal Cost	132,400,000
Federal Funds Through FY 89	70,887,000
Nonfederal Funds Through FY 89	50,025,000
State of Florida Request FY 90	800,000

History/Description

The Four River Basins Project, sponsored by the Southwest Florida Water Management District, has been under construction since 1966 to provide flood protection for an area of approximately 6,000 square miles in 14 counties of central and southwest Florida. It includes part of the drainage basins of four streams (the Hillsborough, Oklawaha, Withlacoochee, and Peace Rivers) and three smaller west coast watersheds (Pithlachascotee River, Anclote River, and Lake Tarpon). The authorized plan includes numerous works in several parts of the

project area. Some major components of the project have already been completed, including the Tampa Bypass Canal, the Lake Tarpon Outfall Canal, the Masaryktown Canal, and the Tsala Apopka Outfall Canal, along with related water control structures, railroad bridges, and highway bridges.

The FY 90 request is for continued work on the Lower Hillsborough Wilderness Park at the Flatwoods Park Site.

Justification

This facility is located close to the Tampa metropolitan area and is a regional recreational resource. The further recreational development of the Lower Hillsborough Wilderness Park will allow greater use of the major land resources acquired as part of the Four Rivers Basin Project.

Lake Apopka Basin Water Management Review (Four River Basins Project)
(General Design Memorandum)

Estimated Federal Cost	$100,000
Estimated Nonfederal Cost	300,000
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	100,000

History/Description

Sponsored by the St. Johns River Water Management District, the proposed study is intended to develop and implement a water management plan for the Lake Apopka Basin. A similar flood protection project for Lake Apopka was originally authorized in the 1962 Four River Basins Project. Due to the date of the original General Design Memorandum (GDM), reactivation of the flood protection would require reppraisal at the GDM level. The Corps would be requested to review the feasibility for flood protection and prepare an addendum to the GDM. Using available water resource and environmental data, new and existing alternatives would be evaluated. The original GDM proposed a levee (L-211) at the north end of Lake Apopka as a possible means of alleviating flooding and water quality problems.

Justification

The study will address potential flooding problems in the Lake Apopka basin. Emphasis will be placed on alternatives that will enhance water quality while providing adequate flood protection.

Lower Hillsborough River/Curiosity Creek Water Quality Enhancement
(Reconnaissance Study)

Estimated Federal Cost	$175,000
Estimated Nonfederal Cost	0
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 88	0
State of Florida Request FY 90	175,000

History/Description

The City of Tampa is proposing a study of the effects of periodic dredging on the lower Hillsborough River to enhance water quality. Bottom sediments in this river section are composed of thick organic muds with accumulations of heavy metals, petroleum hydrocarbons, and other toxic chemicals. This material has accumulated primarily due to historical wastewater treatment plant discharges and stormwater runoff. The existing poor quality of the river sediments contributes to a high sediment oxygen demand. Dissolved oxygen levels in the lower Hillsborough River violate State water quality standards up to 60% of the time. The National Urban Runoff Program, as well as a city-sponsored biological study of river sediments, indicate that periodic dredging of the lower Hillsborough River would improve water quality.

The City of Tampa has allocated over $40,000 for additional studies to supplement this project.

Justification

Periodic dredging of the lower Hillsborough River can be expected to significantly improve water quality. This in turn should also benefit Hillsborough Bay, which has been one of the state's most degraded estuaries. The City of Tampa has undertaken a number of actions designed to improve and protect the Hillsborough River and Tampa Bay (including Hillsborough Bay). This project will complement these initiatives. This study is similar to several other completed Corps studies of altered river systems in the state, including the Miami River and the St. Johns River.

Congressional study authorization is necessary.

Oklawaha River Basin/L-212 Study (Four River Basins Project)
(General Design Memorandum)

Estimated Federal Cost	$100,000
Estimated Nonfederal Cost	300,000
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	100,000

History/Description

This is a new project for FY 90; however, it is covered by the Four River Basins Project authorization. This is due to the fact that the flooding and navigation problems to be addressed by this study are caused by the incomplete Cross Florida Barge Canal.

After completion of the Four River Basins project, the flood flows from Moss Bluff Lock and Dam were increased significantly. These flood flows are discharged into L-212 which was designed to discharge directly into the Cross Florida Barge Canal (CFBC). The CFBC was designed to accommodate the flow; however, construction of the CFBC was halted before it reached this area. This has resulted in a flooding problem near State Road 40 and the Silver River, and in sediment deposition that impedes navigation. This study will identify alternative solutions to alleviate the flooding and sedimentation.

Justification

This study is needed to develop alternatives for solving current flooding and navigation problems. The best alternative will be chosen and adopted in a comprehensive surface water management plan that will also improve the water quality and environment of the river basin.

St. Johns River Basin Water Quality Management
(Study)

Estimated Federal Cost	$350,000
Estimated Nonfederal Cost	0
Federal Funds Through FY 89	200,000
Nonfederal Funds Through FY 89	0
Estimated Federal Funding Requirements FY 90	150,000

History/Description

The study was authorized by language in the FY 84 Public Works appropriations bill, directing the Army Corps of Engineers to prepare "an interim water quality management plan for the St. Johns River Basin, Florida...at full federal expense and in cooperation with local interests." Continuation of this study is proposed by the St. Johns River Water Management District. An amount of $150,000 is requested for FY 90.

The study will provide a plan for the improvement of water quality in the St. Johns River. Available water quality data is currently being collected and reviewed. Land use mapping will be one component of this effort. The need for changes or enlargements in the current monitoring program is being assessed. Eventually, the study will establish water quality goals for the basin, determine whether they are fulfilled in the various lake and stream segments, and recommend means of attaining these goals wherever possible. The Corps is working cooperatively with the St. Johns River Water Management District on this study.

Justification

The St. Johns River has exhibited many water quality problems, as demonstrated by numerous fish kills, algae blooms, and citizen complaints. This study, along with information obtained from an ongoing multi-agency study of diseased fish in the lower reaches of the river, will develop an overall plan to address these problems. The result will provide important benefits to regional economics, aesthetics, and recreation. Fishery resources available for both commercial and sport uses should be enhanced by improved water quality management. Another benefit could be reduced expenditures for control of aquatic weeds.

St. Petersburg Coastal Flooding
(Feasibility Study)

Estimated Federal Cost	$625,000
Estimated Nonfederal Cost	375,000
Federal Funds Through FY 89	350,000
Nonfederal Funds Through FY 89	100,000
State of Florida Request FY 90	250,000

History/Description

This is a proposal by the City of St. Petersburg for a feasibility report to determine the causes and develop solutions to flooding problems in the coastal areas of the city. The study would focus on the urban areas in Pinellas County bordering Tampa Bay which are subject to a 100-year storm event. Coastal flooding, stormwater drainage and management, storm surge protection, and cost-effective flood protection are potential topics of investigation. The city is currently expending 1.2 million dollars on drainage maintenance in the affected areas. A city-financed study of flooding in N.E. St. Petersburg was completed in 1987.

Justification

Flood damage in coastal St. Petersburg exceeded $8 million in 1985. An estimated 90,000 people are potentially subject to coastal flooding. Alleviation of flooding will reduce flood damage costs to the city, particularly for roadway and drainage maintenance. Citizens will benefit from reduced private property damage and reduced insurance rates.

Upper St. Johns Project
(Construction)

Estimated Federal Cost	
Estimated Nonfederal Cost	
Federal Funds Through FY 89	
Nonfederal Funds Through FY 89	
State of Florida Request FY 90	($8,660,000)

History/Description

This project is sponsored by the St. Johns River Water Management District. However, it was previously authorized as part of the Central and South Florida Flood Control Project. The $8,660,000 funding request is included in the total $35,470,000 request for the Central and South Florida Flood Control Project.

The project area of the Upper St. Johns River Basin in east-central Florida encompasses about 2,000 square miles and consists of some 60 individual contributing subbasins. The St. Johns River Water Management District (SJRWMD), in cooperation with the Army Corps of Engineers, has completed the revised General Design Memorandum for the Upper St. Johns Project.

This project is designed to restore the original hydrologic cycle to the Upper St. Johns Basin. The historical hydrologic cycle has been

altered by drainage for agricultural uses. This drainage and altered land use destroyed vast marshlands, and has caused higher flood levels during periods of high rainfall and severe droughts during periods of low rainfall. It also has adversely affected the fresh water inflow and quality of discharge to the saline Indian River. The project is expected to moderate these adverse conditions by constructing retention areas, altering existing manmade drainage, and creating and preserving floodplain marshlands. The retention areas and floodplains should decrease the flood damage, improve water quality (by entraping sediments and nutrients), and help maintain water levels during drought periods. The reduction in low water levels will also alleviate water shortages now experienced by local governments and agricultural industry that depend on the Upper St. Johns River for a water source.

The GDM has been approved by concerned agencies and construction is underway.

Justification

This project could begin reversing decades of environmental damage in the Upper St. Johns River Basin. The multifaceted nature of the project is especially promising. The project offers flood control, water supply, reestablishment of minimum flows, and marsh restoration with associated water quality benefits.

NAVIGATION

Bakers Haulover Inlet Sand Bypassing Plant Study (Reconnaissance Study)

Estimated Federal Cost	To Be Determined
Estimated Nonfederal Cost	To Be Determined
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	$100,000

History/Description

This is a new study request for FY 90. Metro Dade County is requesting a reconnaissance study to determine the feasibility of installing a sand bypassing plant at Bakers Haulover Inlet.

Bakers Haulover Inlet requires periodic dredging to reduce shoaling produced by sand migrating in the north to south direction. The capture of sand by the inlet causes severe erosion of the beaches south of the inlet which require periodic renourishment. Installation of a sand transfer plant would pump the sand across the inlet, renourish the beaches to the south, minimize the shoaling in the inlet. The study will determine if this is the most cost effective and environmentally sound method of solving the shoaling and beach erosion problems.

Justification

A sand transfer plant would restore, at least to some extent, the natural sand flow which has been interrupted by the inlet and jetty. It would provide a continuous sand source for downdrift beaches and significantly reduce shoaling of the inlet and adjacent Intercoastal Waterway, possibly at less cost than periodic renourishment and dredging.

Big Sarasota Pass
(Preconstruction Engineering & Design)

Estimated Federal Cost	$239,000
Estimated Nonfederal Cost	236,000
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	200,000

History/Description

This is the result of a study initiated in 1978, originally designed to determine the feasibility of incorporating six passes along the central Gulf Coast of Florida into the existing Intracoastal Waterway. These passes are Stump Pass, Longboat Pass, Big Sarasota Pass, Dunedin Pass, Hurricane Pass, and Midnight Pass. The feasibility study determined the practicality of maintaining these passes at nine feet mean low water to allow small pleasure and commercial boats improved access to the Gulf of Mexico. Dredging these passes might also provide a source of suitable material for renourishment of eroded beaches in the area. The draft feasibility report circulated in late 1984 eliminated all but Big Sarasota Pass in northern Sarasota County and Stump Pass in Charlotte County from additional study. Congressional authorization is necessary, unless the Corps changes its position, under the Continuing Authority Program, that establishes a low priority on "recreation" projects. This project would benefit a large class of recreational boaters, who contribute heavily to the economic development of Sarasota and Charlotte County.

The recommended plan for Big Sarasota Pass calls for a 2400 foot long by 200-foot wide channel with a 10-foot depth and 2-foot overdepth. Dredging would be through the outer shoal only, as natural depths along the interior channel are sufficient for navigation. 87,000 cubic yards of spoil will be distributed along a highly eroded section of beach south of the Pass. Future maintenance disposal of sand may be deposited along the gulfward side of an existing shoal. Spoil disposal will allow continuation of littoral beach renourishment. A DER permit has been obtained.

Justification

Incorporating this pass into the Intracoastal Waterway should result in greater consistency of navigation aids (buoys, signs, charts, etc.), which would assist boaters, particularly those from out of state who are unfamiliar with local waters. There is a need for a reliable pass in Sarasota County.

Many of the beaches in this area are eroding; thus, beach nourishment could be a valuable byproduct of this project. According to the local sponsor, after some dredging at a nearby pass water quality was enhanced due to improvements in tidal flushing of the bay. In addition, sport fishing improved and boat usage increased.

Fort Pierce Harbor
(Construction)

Estimated Federal Cost	$4,930,000
Estimated Nonfederal Cost	1,765,000
Federal Funds Through FY 89	496,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	4,930,000

History/Description

The Corps of Engineers has completed a study of the feasibility of deepening the Fort Pierce access channel and harbor area. The existing channel is 3.5 miles long and 25 feet deep, extending from the Atlantic Ocean through Fort Pierce Inlet and terminating at a turning basin in front of the city docks. The main commodities shipped through Ft. Pierce are fresh citrus products, citrus pellets (exported), and aragonite (imported).

The Corps had originally recommended that the existing project be modified to provide a channel 36 feet deep and 500 feet wide, extending from the open ocean to within the existing jetties, then becoming 32 feet deep and 300 feet wide to the existing turning basin. The plan has since been modified to a substantially smaller project. The turning basin will be squared to 1100 feet by 1100 feet. The channel from the turning basin to the inlet mouth will be 250 feet wide with a depth of 28 feet. The offshore channel will be 400 feet in width and 30 feet deep. This will dramatically reduce the total amount of material to be excavated. Some of the dredged material would be used to convert a deep water area to a shallow water habitat for seagrass propagation. Beach quality material would be placed on the beach south of the inlet. The project is not yet authorized for construction.

The report also addressed some environmental issues that had been identified by State and Federal agencies when the feasibility study began. Of special importance were the project impacts on a sabellariid worm reef and seagrass beds.

Justification

The proposed project would allow Fort Pierce Harbor to accommodate deeper draft ships, which would result in transportation savings to shippers. This should result in an increase in shipping through the port which could attract new business and increase employment in the area. Unemployment in the Fort Pierce area considerably exceeds the state average. The project also provides recreational benefits. The beach renourishment associated with the project would enhance beach recreation in the area. Finally, possible environment benefits may occur if increased tidal flushing action (resulting from a deeper and wider channel) improves the area's water quality.

Miami Harbor Channel
(Preconstruction Engineering and Design)

Estimated Federal Cost	$1,500,000
Estimated Nonfederal Cost	0
Federal Funds Through FY 89	795,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	705,000

History/Description

This request is for funds to construct channel improvements associated with the present configuration of Miami Harbor. The specific problem being corrected is the hazard presented by side currents at the jetties. The project also includes increasing the main ship channel in Government Cut from 400 feet to 500 feet in width, and to increase the depths and widths of the channel on the south side of Dodge Island.

Due to the bend in the access channel, it can only be used for one-way traffic. Several groundings of large vessels have occurred over the past few years. The constriction of the ship channel inside Government Cut causes a navigational hazard compounded by strong incoming tides and currents. There is a desire to modify the existing Government Cut jetty system to reduce rip tides in the main channel.

Justification

Project benefits could include a reduction in delays in navigating the access channel, a reduction of the need for tug services in the access channel and turning basin, and an increase in the safety of the harbor, particularly for larger ships. The project is strongly supported by the Biscayne Bay Pilots Association.

Miami River Cleanup
(Preconstruction Engineering and Design)

Estimated Federal Cost	$400,000
Estimated Nonfederal Cost	To be determined
Federal Funds Through FY 89	100,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	300,000

History/Description

This proposal, sponsored by Dade County, is to dredge contaminated sediments from the Miami River. The project area includes the six miles of the Miami River in Dade County from its mouth to a point past 36th Street, where it joins the Miami Canal, as well as the 14 miles of the canal within Dade County. An April 1, 1986, Draft Feasibility Report investigated the feasibility of dredging the Miami River to improve water quality. The Corps recommended no federal participation due to a lack of National Economic Development benefits. The Corps is presently reviewing comments on the draft and preparing a final report.

The river is a Federal navigation project with authorized channel depths of fifteen feet. Development over many years has caused serious

water quality problems in the river, and it appears advisable to remove the contaminated sediments in the channel. Studies already completed by both DER and the Corps confirm that the sediments are heavily polluted. The Miami River Coordinating Committee devised means of improving all aspects of this major urban waterway. Water quality improvement is an objective of the committee and they have recommended removal of the sediments.

The Water Resources Development Act of 1986 authorized the Corps to remove the polluted bottom sediments in the river and Seybold Canal. It also authorized a $50,000 grant to establish a Miami River Management Commission. Both activities are supported by the state.

Justification

The Miami River is an underused urban resource. The Miami River Coordinating Committee and Dade County are striving to improve the river's value for navigation, recreation, tourism, and as an aesthetic amenity. The polluted sediments in the navigation channel are degrading water quality and preventing full use of a major urban river. The polluted sediments are also causing degradation of Biscayne Bay.

Port Canaveral Harbor
(Preconstruction Engineering and Design)

Estimated Federal Cost	$300,000
Estimated Nonfederal Cost	0
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	200,000

History/Description

Canaveral Harbor is located on the east coast of Florida approximately 150 miles south of Jacksonville. The Canaveral Port Authority is requesting continuation of a study for widening and deepening the Canaveral Harbor Channel and deepening other areas of Port Canaveral to sufficient depths to allow for economical importation of diverse commodities. The study would also evaluate a possible expansion of Federal maintenance dredging at the port.

Justification

The port presently handles over two million tons of diverse cargo annually and has the potential to increase the tonnage if the channel were deepened and widened to accommodate deeper draft vessels. Deepening the West Basin would yield economic benefits in both the cruise ship operations and the planned ship repair and dry dock operations.

The sand dredged from the channel is expected to be of good quality and suitable for nourishment of Cape Canaveral and Cocoa Beaches.

Maintenance dredging of the various channels and turning basins at Port Canaveral is currently done by the port authority, the Corps of Engineers, and the U. S. Navy. This multiple maintenance situation is inefficient. A series of contracting conflicts have made dredging more expensive and time consuming. Federal assumption of this maintenance dredging under a single contract would alleviate these problems.

Port Canaveral Sand Transfer Project
(Construction)

Estimated Federal Cost	$2,300,000
Estimated Nonfederal Cost	1,580,000
Federal Funds Through FY 89	200,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	2,300,000

History/Description

A sand transfer plant was authorized by the U. S. Congress in 1962 for mitigation as part of the Canaveral Port project, but was never constructed.

The 1984 Thanksgiving Day Storm highlighted the need for this project. The U. S. Corps of Engineers has recently completed a General Design Memorandum for the sand transfer plant with a favorable benefit/cost ratio of 2.5.

The project consists of installing four jet pumps on the north side of the north Canaveral jetty that will pump approximately 106,000 cubic yards per year through a subaqueous pipeline to the south side of the south jetty. In addition, the Corps plans to put 470,000 cubic yards of sand on the south side of the south jetty, every five years. The project also includes extension of the south jetty another 500 feet. By preparing and paving the top of the south jetty as a by-product of this project, a fishing pier that rivals the one at Sebastian Inlet will be created as an added recreational benefit to the project.

Justification

In 1961, the U. S. Army Corps of Engineers estimated the littoral transport rate at Canaveral Harbor Entrance at approximately 350,000 cu. yds per year to the south. A recent estimate done with greater precision using recent field data and the latest in computer programming, lowers this amount to approximately 200,000 cu. yds a year to the south. Thus, the beaches south of the jetty are deprived of nourishment due to the fact that the channel acts as a sink for both sand and silt. Since it is impossible to separate the two, the Corps of Engineers, in its normal channel dredging maintenance, takes a mixture of both silt and sand out to sea. The sand transfer facility complemented with an additional surcharge of sand every five years will minimize the effect of the channel on the neighboring southern beaches. The extension of the south jetty will minimize capture of sand by the channel during periods when the littoral drift is to the north.

The benefits derived from this project are that it will provide for sand transfer and nourishment of the beaches to the south of the port entrance, reduce the amount of sand trapped in the channel and reduce the costs of channel maintenance.

Port Everglades
(Preconstruction Engineering and Design)

Estimated Federal Cost	$500,000
Estimated Nonfederal Cost	0
Federal Funds Through FY 89	50,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	250,000

History/Description

This would continue a study of the desirability of modifying the existing federal navigation project at Port Everglades. The Port is managed by the Port Everglades Authority, a special district in Ft. Lauderdale and Hollywood, Florida. The Port is the second-largest cruise ship port in the world. The Port serves both import and export markets. It includes an active Foreign Trade Zone, a major containerization trade, and significant general cargo business. It also serves as a very large petroleum importer.

The Port Everglades Master Plan projects continued expansion of cargo business, especially container cargo. The steady growth in container tonnage will require improvement of both landside and channel facilities. This study would generate alternative modifications to the existing federal navigation project and identify engineering, economic, and environmental details. The Port Authority itself plans the expansion of the port facilities; the ongoing Corps study is addressing whether the federal government should assume maintenance responsibilities for the new facilities.

Justification

The enhancement of Port Everglades would benefit its market area, which includes most of South Florida. The Port's 1983 Master Plan estimates the regional economic impact of Port Everglades activities to total $412 million. It also projects that by the Year 2000, economic impacts will be between $1.45 and $2.25 billion. Improvements of Port Everglades can substantially contribute to the well-being of the regional economy.

Port Manatee Project
(Construction)

Estimated Federal Cost	$9,750,000
Estimated Nonfederal Cost	3,250,000
Federal Funds Through FY 89	1,088,000
Nonfederal Funds Through FY 89	362,000
State of Florida Request FY 90	8,662,000

History/Description

The Port Manatee Project is a proposal for federal assumption of maintenance dredging of the existing navigation channel constructed by the Manatee County Port Authority. The authorized project involves removal of materials deposited in the channel since its construction and new construction at the ends of the channel to improve navigational safety. The channel dimensions would be 400 feet wide by 40 feet deep at mean low water (the same as originally constructed by the Port

Authority) plus two feet allowable overdredging. Total channel length would be 2.65 miles, extending from the port facilities to the main Tampa Harbor Channel. The selected "Environmental Quality" plan of spoil disposal includes 100% upland disposal.

The Feasibility Report includes an attempt to mitigate for the environmental damage done by the dredging. Ten acres of an existing above water spoil island would be lowered to 2 feet mean low water to compensate for the destruction of 6.6 acres of vegetated shallow bay bottom caused by the enlargement of the turning basin. Vegetation planting is not planned, as the Corps of Engineers believes that the lowered area will revegetate itself naturally. A detailed, site specific mitigation plan will be developed by the Corps and local sponsor before construction.

Justification

The Port of Manatee currently serves the local area for both oil imports and phosphate exports. The Feasibility Report and the Environmental Impact Statement were published in 1979 and supported the project. Construction of the project was authorized under the Water Resources Development Act of 1986.

Panama City Harbor Project
(Feasibility Restudy)

Estimated Federal Cost	$3C)00
Estimated Nonfederal Cost	10 00
Federal Funds Through FY 89	
Nonfederal Funds Through FY 89	
State of Florida Request FY 90	200,000

History/Description

This study involves the review and reevaluation of a 1976 Feasibility Report which concluded that vessel activity in the port was not adequate to justify funding for deepening the entrance channel and the turning basins. This study will determine if an increase in vessel traffic and deletion of the turning basin deepening plan will result in a favorable benefit/cost ratio.

The number of vessels handled by the Panama City Port has increased more than 100% since the 1976 study. The vessel size using the port has also greatly increased. Existing channel depths within the harbor and the dockside facilities are adequate to accommodate deeper draft vessels. However, the shallow entrance channel limits access for larger vessels. The deepening of the entrance channel will remove this limitation.

Justification

The increased depth will allow the deeper draft vessels to use the port's facilities. This should increase the port's revenue and allow it to continue to grow and support economic development in the Panama City area. An additional benefit may be realized through use of beach quality spoil to renourish the beaches of St. Andrews State Recreation Area.

Port of St. Petersburg Basin/Channel Dredging Project
(Reconnaissance Restudy)

Estimated Federal Cost	$180,000
Estimated Nonfederal Cost	125,000
Federal Funds Through FY 89	180,000
Nonfederal Funds Through FY 89	37,500
State of Florida Request FY 90	65,000

History/Description

The City of St. Petersburg submitted a request in FY 88 for funds to dredge the Port channel and basin. Although the current depth of 22 feet is sufficient for most of the ship traffic through the harbor, the Port seeks to promote the development of substantial cruise ship activity in St. Petersburg. This activity has a controlling depth need of 24-27 feet.

The Corps conducted a benefit/cost analysis of a 24-foot depth in 1981, and found that such a project without cruise ship activity could not be economically justified. An environmental and economic Reconnaissance Study was completed in early 1987 which recommended against federal participation. FY 90 funds would be used to investigate other potential markets such as lumber.

Justification

A Comprehensive Plan developed by the city, as well as a Port Master Plan written by private consultants in 1982, indicates that a growing tourism and resident population will generate increasing levels of cruise ship activity. While the two plans note that the Port is relatively unattractive due to geographic location, competition from more desirable ports, lack of facilities/space, and deed restrictions, there are advantages. These include a spill-over of cruise activity to the Port as other ports become congested, access to an attractive international airport, and proximity to an expanding tourist market in the Gulf of Mexico. Both plans look to an expansion of cargo handling as a secondary Port activity.

The city contends that existing tidal and wind conditions, as well as cruise ship operating experience, indicate that design considerations and known safety margins are inadequate. Dredging would provide navigational safety improvement.

Port of Tampa (Port Sutton Terminal Channel Improvement)
(Construction)

Estimated Federal Cost	$1,155,000
Estimated Nonfederal Cost	390,000
Federal Funds Through FY 89	250,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	1,510,000

History/Description

This is the first year that this project has been submitted for inclusion in the State's Public Works Program even though the request is for construction funds. The $390,000 study funds, shown as Federal Funds Through FY 89, were appropriated outside of the program's framework and should not be construed to be a portion of the $1,510,000 request for construction funds.

The proposed construction would increase the depth of the existing 3,700-foot long by 200-foot wide Port Sutton Terminal channel from 34 feet to 43 feet below mean low water. Phosphate is the primary commodity moving through the terminal. This and other bulk commodities being shipped require deep-draft bulk carriers that draw in excess of 34 feet of water when fully loaded. The proposed project will allow the deep-draft vessels to navigate the channel when fully loaded.

Justification

The completion of this dredging project will allow fully loaded deep-draft vessels to navigate this channel, which is not the case with the 34-foot deep channel. The Corps of Engineers estimates an annual benefit of $997,000 from the project.

Stump Pass
(Preconstruction Engineering & Design)

Estimated Federal Cost	$375,000
Estimated Nonfederal Cost	326,500
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	375,000

History/Description

The Gulf Coast Passes Study was initiated in 1978 and originally included a total of six passes. All but two of these passes, Stump Pass and Big Sarasota Pass, were subsequently eliminated from further consideration. The Stump Pass project is requested by Charlotte County. The project would involve dredging a 200-foot wide exterior channel to a depth of 8 feet below mean law water with a 2-foot overdepth and an 80-foot wide by 6-foot deep interior channel with a 2-foot overdepth. Renourishment of a nearby beach by spoil disposal has been suggested as an additional benefit. The proposed project has received a DER permit. Congressional authorization is necessary, unless the project is completed under the Corps' Continuing Authority Program.

Justification

In its Detailed Project Report, the Corps noted that the lack of adequate channel depths in Stump Pass has caused several problems:

1. Most area boaters are forced to use an alternate pass, thus causing inconvenience and increasing travel costs.

2. Inlet shoaling frequently restricts passage of Coast Guard Auxiliary vessels on emergency missions.

3. The condition of Stump Pass makes it unsuitable as a harbor of refuge.

Potential dredging benefits include the establishment of a reliable pass in the area, greater tidal flushing of bay waters, increased boat usage, and beach renourishment.

SHORE PROTECTION

Captiva Island Beach Nourishment
(Construction)

Estimated Federal Cost	$2,025,000
Estimated Nonfederal Cost	6,900,000
Federal Funds Through FY 89	110,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	1,915,000

History/Description

Captiva Island is on Florida's southwest coast near Fort Myers. In 1969, at the request of the Lee County Commission, the Corps prepared a study on beach erosion in Lee County. The study reported that the beaches were severely eroded and recommended a federal project of beach nourishment for erosion control. Historical records show over 700 feet of shoreline recession since 1906, with a maximum annual loss of more than 39 feet. Erosion rates measured from 1967 to 1979 are three to four cubic yards per linear foot of beach per year.

The Captiva Erosion Prevention District is requesting reimbursement of construction costs for 2.8 miles of beach restoration expected to be completed in 1988. The restored beach would be approximately 100 feet wide and would be constructed in two phases in accordance with the overall Federal Beach Erosion Control Study for Lee County completed by the Corps of Engineers in 1969.

Because of continuing problems with limited public beach access and parking, local sponsors are being requested to provide the majority of project construction funding. The project sponsor is developing a revised apportionment plan to produce the required local cost share.

Justification

This project, by renourishing the beach area, would provide protection to upland property, provide hurricane and storm protection for portions of a road which is the only land access and emergency evacuation route, and provide additional public recreational area.

Coast of Florida Erosion and Storm Effects
(Study)

Estimated Federal Cost	$7,750,000
Estimated Nonfederal Cost	7,500,000
Federal Funds Through FY 89	1,000,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	500,000

History/Description

This proposal by the Florida Department of Natural Resources is for continuation of a statewide study of the status and dynamics of the coastal processes affecting Florida's beaches. The study will provide a much improved technical basis for assessing future coastal changes (whether man-induced or natural) by systematically collecting essential data and identifying the factors that cause coastal changes. Funds are being used to establish a statewide data collection network built upon existing data bases. Funds will also be used to create a storm assessment system, and to begin an intensive data collection effort along the 97 miles of shoreline from Juno Beach to Florida City (along Florida's southeast coast). Congress appropriated $250,000 in FY 85 to initiate this study. An additional $500,000 was appropriated in FY 86, $750,000 in FY 87, and $750,000 for FY 88.

Justification

The coast of Florida, which includes 800 miles of high-quality sand beaches, is an extremely valuable state natural resource. This study will provide vital information for coastal resource management. Benefits will include: 1) a better scientific basis for decisions on coastal development, 2) improved effectiveness and reduced costs of future coastal works, 3) an improved basis for preventing storm damages, 4) an improved basis for regulatory decisions, such as the coastal construction control line, and 5) a better understanding of the long-term effects of rising sea level.

The damage done to much of Florida's central and northern Gulf Coast by hurricanes in 1985 demonstrates the need for this study.

Delray Beach
(Construction)

Estimated Federal Cost	$2,69[illegible]
Estimated Nonfederal Cost	2,1[illegible]
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	2,693,600

Project History/Description

Delray Beach was restored in 1973. Maintenance nourishment occurred during 1978 and 1984. A General Design Memorandum was prepared in 1984. A 15-month follow-up study was completed in 1986 and a 27-month follow-up study is currently being prepared by the Corps. The project is scheduled for construction in June 1990. The proposed project will replenish sand lost since the 1984 nourishment.

Justification

The renourished beach will protect upland structures from erosion and will provide additional recreational areas for residents and tourists who provide a major source of income for the area. A major benefit will be the protection of State Road A1A.

Ft. Desoto Park (Pinellas County)
(Study)

Estimated Federal Cost	To Be Determined
Estimated Nonfederal Cost	"
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	$100,000

History/Description

Ft. DeSoto Park is on Mullet Key at the southern end of Pinellas County and Tampa Bay. The county has invested $10 million in the public park. This study is requested to determine means of controlling a severe erosion problem along 13,000 feet of the park's western shoreline.

Justification

The park receives over two million visitors each year. Restoring the beach would preserve this regional recreation facility and protect the economic activities dependent upon tourism and other beach-related activities. Possibly, the project may be accomplished by using suitable materials from the maintenance of the Tampa Harbor Channel. A study to evaluate all alternatives is desirable.

Fort Pierce Beach
(Reevaluation Report)

Estimated Federal Cost	To Be Determined
Estimated Nonfederal Cost	"
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	$100,000

History/Description

This proposal by St. Lucie County is for the placement of 350,000-450,000 cubic yards of sand on the beach beginning at the south jetty of Ft. Pierce Inlet and extending 1.3 miles to the south. The material would be taken from a borrow area 3,000 feet offshore. The beach to be nourished includes two public parks, South Shore Park (1,210 feet of beach frontage) and Surfside Park (550 feet of beach frontage). Both are fully open to public use.

The effect of sand movement in the longshore direction is most evident at Ft. Pierce Inlet, where the beach just south of the inlet has receded an average of 4.3 feet a year since 1930. During the same

period the beach on the north side has advanced seaward. Previous beach nourishment projects have preserved the beach on the south side from eroding so far inward as to destroy both private and public property. However, 88% of benefits are attributable to recreation on the beach, rather than property protection. Project costs are planned to be divided almost equally between federal and nonfederal interests.

Authorization for the nourishment project has expired and must be obtained. The Corps is presently conducting a Section 111 report to study mitigation to compensate for the loss of shoreline due to the federal navigation project.

Justification

Restoring the beach will preserve the existing recreational resource and protect capital investments. The two public beach parks in this area would continue to serve residents and visitors.

Indian River County Beaches (Vero Beach)
(Construction)

Estimated Federal Cost	$4,720,000
Estimated Nonfederal Cost	4,180,000
Federal Funds Through FY 89	665,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	4,055,000

History/Description

During the past 15 years the beach has eroded and migrated 40 to 60 feet inland. During the past six years the annual rate of erosion has increased from 2.5 to 4.7 cubic yards per linear foot of beach. If unchecked, this erosion will soon eliminate the dune and cause the destruction of single and multi-family structures, 4,081 feet of public parks and 1,500 feet of City streets and utilities adjacent to the beach. The 1984 Thanksgiving Day Storm was so severe that Civil Defense declared an emergency evacuation when some of the older seawalls were destroyed and structures started falling into the ocean. This storm caused damage to public and private property estimated at $4.6 million dollars.

The beach restoration will provide protection against a 10-year storm by hydraulically placing sand on 2.65 miles of the most severely eroded beaches in Indian River County. Periodic renourishment of the restored beach would be required on an 8-10 year cycle.

Justification

A restored beach will: (1) reduce the need for additional storm protection structures (seawalls, bulkheads), (2) reduce maintenance or destruction of older, existing storm protection structures, (3) increase width of recreation beach, (4) increase tourism, and (5) prevent complete destruction of the dune system and the resultant inundation of the entire barrier island during storm conditions.

Manatee County Beach Erosion
(Anna Maria Island)
(Construction)

Estimated Federal Cost	$6,600,000
Estimated Nonfederal Cost	4,400,000
Federal Funds Through FY 89	100,000
Nonfederal Funds Through FY 89	200,000
State of Florida Request FY 90	6,600,000

History/Description

The central and southern portions of Anna Maria Island are experiencing erosion. Local interests have constructed numerous seawalls, bulkheads, and other measures to prevent further shoreline recession. However, the uncoordinated application of protective structures has often accelerated loss of sand. The proposed project is 3.9 miles in length, and extends from Holmes Beach south to Longboat Pass. It includes groin reconstruction at Cortez Beach.

There have been problems in the past securing local matching money. However, after two damaging hurricanes in 1985, there is now renewed commitment from the project sponsor and beneficiaries.

Justification

The improved beach would protect upland property and provide a recreational beach.

Miami Beaches (Dinner Key Beach Landing)
(Construction)

Estimated Federal Cost	$90,000
Estimated Nonfederal Cost	108,450
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	90,000

History/Description

The Dinner Key Beach Landing project is located on the coast of the City of Miami. The project has two components: 1) the restoration of a beach and shoreline, and 2) the construction of a wooden landing pier to provide access to a spoil island located on the north side of the Dinner Key Basin. This island contains a sandy beach in need of expansion and is adjacent to what will be a protected swimming area. A piling barrier on the south side will provide protection for swimmers.

This project requires Congressional authorization.

Justification

The Dinner Key Beach Landing project addresses a coastal development need for satisfying an increasing demand for swimming, fishing, and boating in the area. This project will make improvements that will increase public access while renewing and expanding swimming and boating opportunities at the water's edge. This is in response to the need for a major bayside improvement program.

Miami Beaches (Virginia Key Barrier Island Park)
(Study)

Estimated Federal Cost	To Be Determined
Estimated Nonfederal Cost	"
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	$50,000

History/Description

This is a study intended to help protect and enhance approximately 1.3 miles of the Virginia Key Park Barrier Island shoreline along the Atlantic Ocean. It involves placement of riprap, reconstruction of existing groin fields, and renourishment of the existing beach. Authorization for a restudy is needed.

Justification

Completion of this project would have three results:

1. Preservation of Virginia Key Park as a coastal barrier island which protects a major portion of downtown Miami.
2. Enhancement of Virginia Key Park as a major resource based recreational facility for Dade County's 1.7 million residents.
3. The relocation of a beach which will significantly reduce the dangers to swimmers due to a sharp drop-off and swift currents.

Also, the placement of riprap will reduce the erosion and resulting turbidity and sedimentation.

Miami Beaches (Waterfront Parks Shoreline Stabilization)
(Study)

Estimated Federal Cost	$1,325,000
Estimated Nonfederal Cost	750,000
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	1,325,000

History/Description

This project proposes the placement and construction of concrete bulkhead and limestone riprap along the shorelines of five City Parks: Legion, Morningside, Pace, Brickell and Peacock. The shorelines were stabilized many years ago with concrete rubble. This rubble has proven to be unstable and has allowed considerable erosion of the beach. Also, garbage accumulates within the randomly positioned rubble, creating a hazardous condition for persons attempting to walk on or swim adjacent to the rubble.
Applications for required permits have not been submitted.

Justification

The placement of riprap or concrete bulkheads will reduce erosion and resultant turbidity, improve the available habitat for marine species and remove hazards for persons using the parks.

Miami Beaches (Watson Island Park)
(Study)

Estimated Federal Cost	To Be Determined
Estimated Nonfederal Cost	"
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	$50,000

History/Description

Watson Island is a spoil island located off the coast of Miami. The purpose of this one-year construction project is to remove the existing unconsolidated rubble and debris, regrade the site, place small amounts of fill to level the shoreline, and install approximately 1,300 linear feet of riprap to stabilize the shoreline along the badly eroded northern shore of Watson Island Park. This publicly-owned park is adjacent to the Intracoastal Waterway which generates significant boat traffic. Wakes from boats, as well as natural forces, are causing serious erosion and sedimentation problems.

Justification

The park is extensively used by area residents and visitors. The shoreline protection will preserve a valuable tourist asset since it is located directly across from the Port of Miami, which is the largest passenger port in the nation.

Palm Beach County
Town of Palm Beach (Mid-Town Beach)
(Construction)

Estimated Federal Cost	$2,437,889
Estimated Nonfederal Cost	8,466,711
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	2,437,889

History/Description

This request is for the nourishment of three miles of Mid-Town Beach. The project is consistent with the Palm Beach County General Design Memorandum of April 1987. A General and Detailed Design Memorandum of the specific project area is being prepared and will refine the project design. A study is presently underway to determine the location of an offshore sand source containing material compatible with the present beach sand. It is estimated that 2 million cubic yards of material will be required to adequately protect the upland area and provide exposed beaches for recreational activities.

Justification

Public beaches at the Town of Palm Beach have undergone extensive erosion. Some of the beaches are submerged at high tide. Also, there is a potential for the destruction of public roadways and homes. Seawalls have been constructed immediately in front of some structures to prevent undermining. This renourishment project will restore the 20-year level of storm protection for the upland structures and also provide public recreation.

Palm Beach County Beaches (Jupiter Beach/Carlin Park Beach Nourishment)
(Construction)

Estimated Federal Cost	$1,388,200
Estimated Nonfederal Cost	811,800
Federal Funds Through FY 89	N/A
Nonfederal Funds Through FY 89	N/A
State of Florida Request FY 90	1,388,200

History/Description

This is a new project for FY 90; however, it is a portion of the ongoing Palm Beach County renourishment program. The project involves 6,400 feet of beach south of Jupiter Inlet, of which 4,650 feet is within Jupiter Beach and Carlin County parks. Renourishment material will come from maintenance dredging of Jupiter Inlet and from an offshore borrow area. Renourishment is scheduled for the summer of 1989. This project is on the Department of Natural Resources Division of Beaches and Shores' list for State funding.

Justification

The project will protect adjacent property from a 10-year storm and provide recreational benefits for both residents and tourists.

Palm Beach County Beaches (Ocean Ridge Beach)
(Construction)

Estimated Federal Cost	$794,908
Estimated Nonfederal Cost	888,792
Federal Funds Through FY 89	N/A
Nonfederal Funds Through FY 89	N/A
State of Florida Request FY 90	794,908

History/Description

This project is a part of the overall Palm Beach County renourishment program. For this reason, the funds spent through FY 89 for this particular portion of the county beach renourishment are not available. The nonfederal cost figure includes funds from local sources and Department of Natural Resources Division of Beaches and Shores. The federal funds will be supplied as reimbursement after completion of the project.

This renourishment project will provide five-year storm protection for 3,000 feet of beach south of the South Lake Worth Inlet. Recent studies have indicated an annual loss of approximately 37,500 cubic yards of sand per year. This has resulted in a critically eroded beach with property owners forced to resort to structures to save their property. The South Lake Worth Sand Bypass Plant replaces some of the lost material, but periodic renourishment is still required to sustain a usable beach.

Justification

The project will provide storm protection for upland properties including State Road A1A and a public park.

Panama City Beaches Renourishment
(Study)

Estimated Federal Cost	$600,000
Estimated Nonfederal Cost	0
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	600,000

History/Description

A feasibility report for beach erosion control and hurricane protection for the Panama City Beaches was compiled in 1986 with a positive benefit/cost ratio. However, the Corps discontinued work on the project when Bay County withdrew as sponsor because of the eventual cost to the county. The county now has the means of funding the project through the taxing authority of the Tourist Development Council. Therefore, this county has requested the Corps to revive the study of the project area.

The Panama City Beaches have been badly eroded by hurricane and storm action. Many of the beachside structures have been undermined or destroyed. This project is to provide a long-term restoration and maintenance program for approximately 18 miles of beach which extends from St. Andrews Bay to Phillips Inlet.

Justification

The project will protect upland structures, evacuation routes, Highway US 98, county roads, and restore the beaches for the benefit of local citizens and tourists.

Pinellas County Beaches (Indian Rocks Beach)
(Construction)

Estimated Federal Cost	$20,000,000
Estimated Nonfederal Cost	21,700,000
Federal Funds Through FY 89	6,998,000
Nonfederal Funds Through FY 89	5,684,000
State of Florida Request FY 90	3,700,000

Description/History

Congress authorized a review of the beach erosion control report on Pinellas County, Florida, in 1976. The resolution authorized a periodic nourishment project for five barrier islands: Mullet Key, Long Key, Treasure Island, Sand Key and Clearwater Beach Island. To date, funding has been used for projects on Sand Key, including breakwater construction at Redington Shores and Indian Shores, nourishment projects at Redington Shores and North Redington Beach, and reconstruction of a groin at Madeira Beach. Renourishment projects were also undertaken on Long Key.

During the past 10 years, severe erosion has occurred along 22,000 feet of beachfront on Sand Key in Pinellas County. Some areas are devoid of beaches and have been armored with seawalls. The local project sponsor, Pinellas County, has requested funds for a three-phase beach restoration project. An Environmental Impact Statement entitled "Beach Erosion Control Project Review Study" has been completed by the

Army Corps of Engineers. Federal funds were provided in 1969 and 1973 for emergency beach fills to replace storm-eroded areas at Indian Rocks Beach.

Phase I was the FY 88 request which was appropriated. The project consists of nourishment of the southern 7,282 feet of Indian Rocks Beach.

Phase II of the overall project is being considered for FY 90. Pinellas County has submitted a FY 90 request of $3.7 million for nourishment of the northern 7,282 feet of Indian Rocks Beach.

Justification

The project will provide storm protection for public and private properties as well as Gulf Boulevard, a major roadway.

Pinellas County Beaches (Long Key)
(Construction)

Estimated Federal Cost	$1,897,000
Estimated Nonfederal Cost	1,898,000
Federal Funds Through FY 89	N/A
Nonfederal Funds Through FY 89	N/A
State of Florida Request FY 90	1,897,000

History/Description

This project is consistent with the overall Pinellas County beach nourishment plan. It consists of 3.6 miles of Gulf front beach fill in the middle segment of the total Long Key renourishment project. The nonfederal funds include state monies provided by the Department of Natural Resources Division of Beaches and Shores. The project will restore moderately eroded beaches and also includes dune construction. The project area contains 6,781 feet of public beaches. Additionally, there are sixteen public access sites within the project area.

Justification

The project will protect upland properties from additional erosion and restore the beaches, including two public beaches, for the benefit of local residents and tourists.

Pinellas County Beaches (Treasure Island Jetty And Nourishment)
(Construction)

Estimated Federal Cost	$1,150,000
Estimated Nonfederal Cost	1,150,000
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	1,150,000

History/Description

This proposal is to provide renourishment for the northernmost 3,000 feet of Treasure Island and to construct an attached breakwater

structure. The beach's proximity to Johns Pass results in severe erosion. Nourishment by material dredged from the pass has not corrected the problem. Therefore, the applicant believes construction of a breakwater is appropriate.

Application for permits required for construction of this project have not been submitted.

Justification

This project will protect upland development which is threatened by erosion, and will provide additional beach area.

Sarasota County Beaches (Longboat Key),
(Construction)

Estimated Federal Cost	$2,445,000
Estimated Nonfederal Cost	1,790,000
Federal Funds Through FY 89	0
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	474,600

History/Description

The FY 90 funding request is to complete construction planning for beach restoration and nourishment on central Longboat Key in Sarasota County. Continued recession of the shoreline is creating a situation which makes coastal development more vulnerable to tropical and winter storms each year. Presently, 2890 feet of Gulf of Mexico Drive is directly endangered by storm waves.

The plan provides for the construction of a protective beach along 12,600 feet of shoreline between the Viente and Castillian condominiums, and includes a beach monitoring program. The proposed project consists of a 50-foot wide beach berm with a crest elevation of nine feet above mean sea level. Initial beach fill would be 1,165,100 cubic yards. Periodic renourishment with 98,000 cubic yards of fill would be required every eight years to replace that lost to erosion.

Participation by the Town of Longboat Key is contingent upon the appropriation of funds by the town government.

Justification

Currently, a major storm could cause substantial damage and threaten municipal infrastructure, including roads and water systems. This project would provide beach erosion control and protection against storm induced flooding, and may stabilize and reverse the continual erosion of shoreline in this area. By reducing flood hazards, the plan would protect State Road 789, upland property and sole-source gas, water, and wastewater conduits. It would provide beach erosion control and an aesthetic beach for public use.

Sarasota County Beaches
(Venice/Caspersen Beach)
(Construction)

Estimated Federal Cost	$4,415,000
Estimated Nonfederal Cost	3,223,000
Federal Funds Through FY 89	437,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	4,415,000

History/Description

Venice/Caspersen Beach is in Sarasota County on the west central coast of Florida, about 50 miles southwest of Tampa. The county coastline consists of five barrier islands separated by tidal inlets.

In 1964, Congress authorized a study of beach erosion problems in Sarasota County. At the County's request, the study was deferred in 1970, but resumed in 1978. In April of 1984, the Corps of Engineers released the project's Feasibility Report and Environmental Impact Statement. The report has a favorable benefit/cost ratio, especially for Venice/Caspersen Beach. Beach erosion problems are particularly severe in that area. The most likely source of sand for the project is offshore. Project authorization occurred in 1986.

Justification

Local governments and private property owners have been renourishing beaches and building beach erosion control structures in Sarasota County for much of this century. In spite of these efforts, some of the County's beaches have eroded by more than 200 feet in the last 100 years. Sarasota County is experiencing explosive population growth, placing additional demands on existing beaches. The destruction of abutting property improvements (including residences, multi-family developments, public roadways, and utility facilities) could be prevented. The Sarasota County Beaches Project would help meet these goals.

St. Johns County Beaches
(St. Augustine Beach)
(Construction)

Estimated Federal Cost	$2,334,000
Estimated Nonfederal Cost	1,492,000
Federal Funds Through FY 89	350,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	2,334,000

History/Description

This project would nourish approximately 2.3 miles of beach which includes the City of St. Augustine Beach. This will replace sand lost through high wave action, increase beachfront to accommodate additional visitors, allow for vehicle traffic, and provide added protection for upland properties. The nonfederal costs include both local and state funding.

Justification

The increased beach area will provide additional recreational area, protect upland property and provide for vehicle traffic on the beach, which is classified as a county road.

ENVIRONMENTAL RESTORATION AND ENHANCEMENT

Biscayne Bay Survey Review
(Study)

Estimated Federal Cost	$1,692,000
Estimated Nonfederal Cost	0
Federal Funds Through FY 89	240,000
Nonfederal Funds Through FY 89	0
State of Florida Request FY 90	700,000

History/Description

This study is a comprehensive review of environmental impacts from federally authorized and constructed projects in and adjacent to Biscayne Bay in Dade County, Florida. The Corps of Engineers, acting as the lead federal agency in cooperation with the Federal Department of Transportation, is reviewing existing projects such as the Intracoastal Waterway (ICW), Government Cut, Bakers Haulover Inlet, the Central and Southern Florida Flood Control Project, and causeway construction to determine whether these and other federally authorized projects are having a detrimental impact upon Biscayne Bay. The reconnaissance survey recommended five areas for further study:

1. Snake Creek freshwater discharge.
2. Sediment transfer through Haulover Inlet.
3. Mowry Canal freshwater discharge.
4. Miami River and canal freshwater discharge and sediment transport into the bay.
5. Spoil island and shoal impacts on turbidity.

Justification

Biscayne Bay and the adjacent shoreline have been subjected to intense alterations from federally authorized construction projects. The cumulative impacts of these projects on Biscayne Bay are not known. However, locally funded studies have determined that water quality in the bay is poor, especially north of Rickenbacker Causeway. Excessive turbidity and reduced flushing are major problems. This study is needed for the development of guidelines for future management of Biscayne Bay's natural resources. A successful study will result in improved environmental quality of Biscayne Bay and enhancement of recreational opportunities.

STATEMENT OF NEBRASKA CHAPTER, SIERRA CLUB

Dear Senator Johnston:

I am submitting this testimony on behalf of the Nebraska Chapter of the Sierra Club. The Prairie Bend Project is an irrigation recharge project on the Platte River in Central Nebraska. The project sponsers are requesting funding for fiscal year 1990.

We are opposed to any further funding for this project. We feel that it should not be funded for several reasons: (1) It is not cost effective. (2) It is not needed. (3) It will hurt the environment.

The Bureau of Reclamation has studied this project to determine whether it is cost effective. They only obtained a positive cost/benefit ratio by using a price for corn of $3.44 per bushel. Of course the market price for corn in Central Nebraska is now about $2.60 per bushel. In a time of budget deficits and surplus crops, this is simply a project that we cannot afford to fund.

The sponsers of Prairie Bend claim that the project is needed to prevent thousands of acres of land from reverting from irrigated to dryland. But, there are much cheaper alternatives to Prairie Bend that can accomplish the same objective. The Central Platte Natrual Resource District has adopted groundwater quality regulations to stop grounwater declines. These regulations will utilize conservation efforts rather than water diversions from the Platte River. There are also other alternative ways to deal with the declining groundwater table. Farmers have the option of switching to alternative crops which do not require as much water as does irrigated corn. A coordinated management plan encompassing all the upstream dams on the Platte would result in more efficient use of the water and provide more water for the Prairie Bend area than would be realized from the Prairie Bend Project. At a time when wea re paying farmers not to produce and are subsidizing prices due to crop surpluses, it does not make sense to build a project that will only produce bigger crop surpluses.

In the Central Platte valley the Platte River today has only 30% of the volume that it carried 100 years ago. This loss of volume has resulted in a severe loss of suitable habitat for many wildlife species that have used the river for thousands of years. Any further diversions from the river could result in a severe loss of wildlife. The Platte River is a unique habitat for wildlife. Certain minimum flows in the river are required to maintain the present suitable habitat. The Prairie Bend Project, as proposed, does not provide for adequate flows to maintain the habitat. The project should not be funded unless the minimum flows are increased to at least the levels found to be necessary in the U. S. Fish and Wildlife Service's Two Forks biological opionion.

All of these reasons justify no funding for the Prairie Bend Project. We urge your committee to deny funding for this project.

STATEMENT OF KENTUCKY-CUMBERLAND COAL CO.

Dear Senator Sasser:

Kentucky-Cumberland Coal Company, is a family owned and operated mining operation, located in Harlan County, Kentucky. Our employment is made up of over 200 employees within our operations. We have been mining and marketing our own coal products for over 60 years, and we have over 20 years of recoverable reserves, on our own properties.

Kentucky-Cumberland Coal Company, feels that there are many advantages for us with the construction of the new main locks at both Chickamauga and Watts Bar Dams. The main one being increased movements of our coal products into many different markets. Also the availability of the locks location to our operations.

Let it be known that we at Kentucky-Cumberland Coal Company, do hereby request the congress to deeply consider the $2 million investment into TVA's 1990 budget.

We do also request that this letter be submitted into the public records, in lieu of oral testimony.

SUBCOMMITTEE RECESS

Senator GARN. So I thank you very much for coming.

The subcommittee is recessed until 2 p.m.

[Whereupon, at 11:37 a.m., Wednesday, April 5, the subcommittee was recessed, to reconvene at 2 p.m., the same day.]

(AFTERNOON SESSION, 2:05 P.M., WEDNESDAY, APRIL 5, 1989)

The subcommittee met at 2:05 p.m., in room SD–192, Dirksen Senate Office Building, Hon. Harry Reid presiding.

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator REID. The Energy and Water Development Subcommittee of the Senate Appropriations Committee is called to order. In the absence of the chairman of the subcommittee, Senator Bennett Johnston of Louisiana, I have been asked as a member of this subcommittee to preside over today's session. Senator Johnston expresses his regrets at not being able to be here. However, on behalf of Chairman Johnston and the entire subcommittee, I want to welcome each of you here today.

We have a large number of witnesses that wish to be heard. Therefore, in accordance with our notifications of each of the witnesses, it will take some self-restraint on the part of everyone to hold oral testimony to a minimum, in order that all of you who have requested an opportunity to testify may be heard.

In keeping with the subcommittee wishes I ask that the detailed prepared statements that each of you have worked on carefully, I hope, be submitted for the record, where it will be reviewed in its entirety and will be made part of the record.

That is the record that the subcommittee will study in determining its judgment recommendations in the upcoming year. Also in this way, you will have a carefully detailed record so that anyone who is not present will be able to arrive at an independent judgment.

If each witness will summarize or highlight the important points in his oral testimony, it would be most helpful. It is my understanding that all the witnesses are from California, which is close to my State, of course, as you are aware.

PREPARED STATEMENT OF SENATOR ALAN CRANSTON

Senator Cranston has indicated that he would like to be here today. As you know, we are in the middle of a savings and loan crisis. He is the ranking member on that committee and has to be in attendance there. He is going to try to make it by today. If he does not, we are going to include his statement and make it part of the record.

[The statement follows:]

STATEMENT OF SENATOR ALAN CRANSTON

Mr. Chairman, I much appreciate the opportunity to appear before the Senate Appropriations Subcommittee on Energy and Water Development this afternoon to support Fiscal Year 1990 funding for Corps of Engineers and Bureau of Reclamation water projects in the State of California.

These navigation, beach erosion, flood control, and irrigation projects are vital to the economic well-being of the state and the safety of its citizens. Our financial investment in these water development activities is returned many times over through the benefits of port development, shoreline and flood protection, and increased water and hydroelectric power supplies.

This year the Corps is requesting $140,159,000 for various projects in California -- just slightly less than was appropriated for FY 1989. The Bureau is requesting $175,447,000 for its California programs -- $25,000,000 less than appropriated for these activities in FY 1989.

I'm pleased to note that the budget includes funds for many important projects such as the Bureau's Elsinore Valley Municipal Water District and United Water Conservation District projects, the Corps's Kings River, Tule River, and Kaweah River studies, and the critically needed Santa Ana River Main Stem flood control project, a new construction start.

As you well know, the Administration requested money for construction starts in FY 1989, but the Congress did not provide the funds. I recognize that in our continuing effort to reduce the deficit and meet the Gramm-Rudman targets, this is going to be another very tight budget year. Nonetheless, it's my hope

that without exceeding the budget we will be able to initiate a few new construction projects to address pressing needs.

Additionally, I hope that the Committee will consider a number of needs not adequately addressed in the Administration budget request. These include funding for dredging of small harbors normally maintained by the Corps of Engineers, continuing studies and ongoing construction, and recreation and fishery responsibilities. I support additional funding for these purposes if it can be accomplished within the budget ceiling.

As you know, the Administration adopted a policy of eliminating funding for maintenance dredging of navigation projects which annually carry less than 25,000 tons of commerce. This policy affects Morro Bay Harbor, Moss Landing Harbor, Noyo River and Harbor, Oceanside Harbor, San Leandro Marina, Santa Barbara Harbor and Suisun Channel, which require periodic dredging in FY 1990. The 25,000 ton criterion, however, does not reflect the true value to the public of these harbors, their importance to local economies, or the need for ports of refuge. Also affected by this arbitrary policy is the Oceanside Sand Bypass project.

Oceanside Sand Bypass

As you'll recall, the Corps is constructing a sand bypass which will greatly reduce the need for periodic maintenance dredging of the Oceanside Harbor and replenishment of Oceanside's beaches. Construction of phase one of the project is completed and the pumps are working. However, there is no money in the FY 1990 budget for operation and monitoring of the sand bypass system. It's my understanding that $1.2 million is needed for this purpose. Further, another $2.5 million is needed for construction of the second phase of the project, which includes the addition of fluidizer pipes in the harbor entrance. These fluidizers, which would cause the sand to flow toward the jet

pumps and increase their operational efficiency, are crucial to the successful operation of the Oceanside Sand Bypass. From a fiscal and operational standpoint it makes sense to appropriate $3.7 million and fund both efforts in FY 1990.

Mr. Chairman, I'd also like to call the Committee's attention to the importance of ongoing work to address serious flood threats in major population areas of California. Projects not adequately funded in the Administration budget are the Los Angeles County Drainage Area investigation, and Guadalupe River (San Jose), Sweetwater River (San Diego), and Sacramento River flood control projects.

Additionally, there are a number of studies underway for which funding has not been included in the Administration budget. These include the Bureau's Santa Ana Watershed Management study and the review of the San Felipe Project (Watsonville Service Area).

San Felipe Project (Watsonville Service Area)

As you know, under the San Felipe Project, the Bureau of Reclamation has reserved 19,000 acre feet of water for the Watsonville area. In 1987 the Pajaro Valley Water Management Agency notified the Bureau of its intent to contract for this water and in FY 1988 the Bureau began work on the feasibility report which is a prerequisite to the water transfer. Work is continuing in FY 1989. However, there are no funds in the Administration FY 1990 budget to continue the work. It's my understanding that an additional $400,000 is necessary for this purpose. In addition to the desirability of providing the continuity which would be lost if the study is put on hold for a year or longer, there is some urgency in providing the water to the Pajaro Valley Water Management Agency. The Watsonville area is entirely served by groundwater and that groundwater supply has

been decreasing yearly. The aquifer is now so low that there is a problem with seawater intrusion and farmers are pumping salt water out of their wells. This situation has been badly exaccerbated by the past two years of drought. San Felipe water will allow the area to build back up its groundwater supply.

In recognition of the serious budget contraints we face, I have mentioned only a few of the many meritorious California water projects. Today you will also be hearing from representatives of the California water community, the California Water Commission, the State Reclamation Board, the California Marine Affairs and Navigation Conference, port directors, water districts, elected officials about these and other equally important projects.

The California Water Commission is requesting an additional $17 million for Corps of Engineers projects and $7,071,500 for Bureau projects in the state. Specifically, the California Water Commission is requesting additional monies for Northern California Streams-Sacramento River restoration, San Joaquin River System sedimentation investigation, Whitewater River Stormwater Channel, Los Angeles County Drainage Area, Goleta Vicinity Streams, Guadalupe River, New Melones Lake, Sweetwater River, Sacramento River Flood Control Project, San Felipe Division, Salinas Valley Basin Water Management Plan, Off Stream Storage investigation, San Joaquin Valley conveyance study, Delta Water Management, Refuge Water Supply, Santa Ana Watershed Management study, and the Coleman National Fish Hatchery.

The Reclamation Board of the State of California is also supporting increases for studies of the Sacramento River Restoration at Glenn-Colusa Irrigation District and the San Joaquin River System sedimentation and construction of the Sacramento River Flood Control Project.

The California Marine Affairs and Navigation Conference is asking for an additional $19,224,000 for the Corps. This includes additional monies for Pacific Coast Shoreline study, San Francisco County Ocean Beach study, Point Mugu to San Pedro Breakwater study, Coast of California Storm and Tidal Waves study, Newport Bay Harbor study, North Coast of Los Angeles County study, San Leandro Bay study, Santa Cruz Harbor study, West Newport Beach Harbor study, Sunset Harbor study, Santa Barbara Harbor preconstruction engineering, Los Angeles-Long Beach Harbors design, Redondo Beach (King Harbor) construction, Dana Point Harbor analysis, Los Angeles-Long Beach Harbor dredging, Marina Del Rey analysis, Morro Bay Harbor dredging, Moss Landing Harbor dredging, Noyo River and Harbor dredging, Oceanside Harbor dredging, Oceanside Experimental Sand Bypass System, San Leandro Marina dredging, Santa Barbara Harbor dredging, and Suisun Channel dredging.

Mr. Chairman, I urge you to give their requests your thorough and careful consideration.

On behalf of California, I deeply appreciate your attention and the support you and the other members of this Committee have given in past years to the California water resources program and will be grateful for any assistance you can give again this year. Thank you.

California Navigation Projects

STATEMENT OF ROBERT H. LANGNER, PRESIDENT, CALIFORNIA MARINE AFFAIRS AND NAVIGATION CONFERENCE

Senator Reid. It is my understanding, Mr. Langner, that you have been given the dubious honor of marshaling the time today. One of the staff people reminded me that you are here for money and he told me to, maybe, suggest that all the time you use that you should not, that part of the money will go to Nevada. [Laughter.]

Would you proceed?

Mr. Langner. Yes, Mr. Chairman. Thank you. And we are well aware this is an Appropriations Committee and why we are here—for money.

And second, we will try to be precise and brief in our comments. This is the 31st year we have been here, Mr. Chairman. It is a pleasure and a responsibility to do so.

We also realize that this, tomorrow, is the birthday of the Congress, the bicentennial. And we are presenting a luncheon tomorrow, at which we hope you will be in attendance—that is the Golden State Luncheon, which is our 30th luncheon. It is sort of our birthday, too.

PREPARED STATEMENT

We have attached to our testimony a list of recommendations which have been carefully perused by our membership, examined one by one in the last several months; and it has the unanimous endorsement. In most instances they reflect the President's budget. In several instances we have asked for additional funding. There will be witnesses here in support of these requests.

[The statement follows:]

STATEMENT OF ROBERT H. LANGNER

It is both a pleasure -- and a responsibility -- to appear before you with testimony and annual presentation on behalf of the California Marine Affairs and Navigation Conference. In this role since 1959, one learns that there is a certain evenness, a welcomed continuity and deliberate pace in the work of the committees of the Congress. You have always treated us with courtesy, fairness and consideration for which we are appreciative. It is realized that our presence here over this nearly one-third of a century is modest indeed, when noting that tomorrow will mark the bicentennial of the first full-quorum meeting of the Congress of the United States. We join with you in a warm "Happy Birthday!".

Experienced or not, one should always be prepared for surprises. Both as observers and participants in the process of policy changes, shifting emphasis and new national priorities over these several decades, we first observed the emergence of partial cost-recovery on the inland navigation system. The change, affecting shallow-draft waterways and the barging industry and its unique service to the nation's transportation needs, evolved with deliberation, protracted study and much dialogue, and an ultimate compromise which offered no surprises, and for which carriers and users alike were reasonably prepared. Similarly, although in a shorter timeframe, cost-recovery proposals for deep-draft, coastal harbors were anticipated, contended with, subjected to major reviews, analyses and changes, and were finally adopted and implemented in a manner as to minimize confusion and adverse impacts.

With these changes in place -- and "no surprises" -- the most recent proposals decidedly came suddenly, seemingly arbitrarily, apparently hastily-contrived, and certainly without benefit of any dialogue, anticipation or concern for the negative immediate impacts which would result.

We refer to criteria to reduce or eliminate Federal responsibility for small harbors' maintenance which included an annual "floor" of 25,000 tons of commerce -- any kind of cargo. It has been difficult for C-MANC, in its representation role and on behalf of the public and private bodies and projects which it represents, to be responsive with constructive comments, information and recommendations to you in your review and evaluation of these proposals from the Office of Management and Budget, as originally recommended by the Department of the Army. What information has been made available was circulated through our membership, Project sponsors which would be immediately or ultimately affected were asked to be responsive with information, statistics and projected impacts, which all have done. C-MANC Board Chairman Richard Parsons is here today with a summary of these responses. But it is difficult if not impossible to apply this information to criteria which apparently has been withdrawn, reportedly undergone major revision, and have not as yet been made available for new critique and evaluation.

C-MANC, along with what we believe to be other responsible and representational organizations with similar roles, has been realistic over the years in recognizing the need for changes -- that historic roles change, responbilities must be modified, and the Federal-local "partnerships" inevitably must be redefined -- as has been the instance with (1) inland waterways, and (2) commercial harbors and deep-draft connecting channels. Shallow-draft projects -- with their many roles, variety of uses and flexibility of functions -- are as distinct from the other two categories of navigation projects as they are from each other. We have found no member who's adamant in absolute insistence on the status quo in these relationships.

We are in full agreement that Federal responsibilities for navigation spanning almost two centuries should no more be suddenly altered in this latest instance than in the earlier two. Certainly, the submitted-withdrawn-reportedly modified-still pending "new" criteria should not have any appliction to appropriations for the coming fiscal year, as an absolute minimum delay. There should be allowed an adequate period for the same dialogue, consideration and devel opment of reasonable consensus as was provided in the earlier instances. We are confident that this request will be granted -- especially since the issue, in the overall context of well-recognized need for budget austerity and balancing, is relatively insignificant.

So much for surprises.

Once again submitted to you as part of this testimony is a schedule of recommendations which have been considered since the fall of last year -- and most recently unanimously approved by C-MANC. They reflect full endorsement of the President's budget proposals for the fiscal year beginning October 1, 1989. In addition, there are several proposals for additional funding as described in the schedule. We ask again for your consideration of additional funds for the purposes cited, and certainly including operations and maintenance of existing projects.

It is a pleasure to again have with us today a very representative body of C-MANC membership, some of whom will present testimony or statements, and others will be introduced before concluding this presentation. You will note appended to my testimony a map indicating the location of our public members, which are supplemented of course by many others who support the projects for which funding is recommended today.

While virtually every project has such representation, sponsors and support, there is one which is almost an "orphan in the storm", and which C-MANC has "adopted" because it has importance to the entire state -- and indeed, applications on a national basis -- and thus is "everyone's concern". Referred to as the California Coastal Storm and Tidal Waves Study.

With the scheduled completion of studies for the San Diego Region in 1990, the future course of the CCSTWS comes to a crucial juncture. Acting in good faith in accord with

today's constraints and new cost-sharing requirements, statewide and local agencies are working diligently to secure matching study funds to allow work to begin in two additional, high-priority regions, i.e., the South Coast region of Los Angeles/Orange Counties and the Central Coast region of Ventura, Santa Barbara and San Luis Obispo counties. Initial work would include collection of sediment and topographic data, sand budget analysis and modeling of coastal processes in these regions.

Because of the demonstrated value of the information developed by the CCSTWS to date, we recommend that an additional $500,000 (beyond the President's budget amount of $573,000 to complete the San Diego region) be allocated to these two new regions in FY 1990. This amount would allow the current momentum of the CCSTWS to continue.

In a somewhat different vein, C-MANC notes that a considerable portion of the work to be done for the CCSTWS actually transcends regional and state scope to such an extent that consideration of full Federal funding for some of its CCSTWS is appropriate. Specifically referenced are such items as development of numerical wave models, gauging of offshore wind and wave-events, wave-climate analysis and other wide-ranging data gathering and analytical studies. With this in mind, we urge you to assure evaluation of the CCSTWS to determine which elements should be excluded from cost-sharing. As we see it, this separation would have at least two significant beneficial consequences: Firstly, it would allow completion of work of the broadest scope on an expected schedule using Federal funds, with corresponding widespread benefits to all; and secondly, in a complementary manner, it would assure regional and State interests that their cost-sharing contributions go to elements which are of immediate and special concern to them.

Also traditional in my testimony is reference to C-MANC's organizing the first continuing dredging task force 17 years ago in Northern California, to be responsive to new concerns and growing regulatory actions which often appeared to be counter-productive, costly and extremely delaying of needed navigational maintenance and improvements, without corresponding benefits. The foresight shown then was not fully apppreciated, and it was only slowly that in other regions and subsequently on a national basis, were similar industry responses initiated. Very much in evidence here today, as he has been for many years, is Frank C. Boerger, founding chairman of this C-MANC undertaking, who continues in that role as well as in several others -- now representing the Golden Gate Ports Association. Should you have questions regarding issues of dredging regulations in their entire complexity and often controversy, Colonel Boerger can be most responsive.

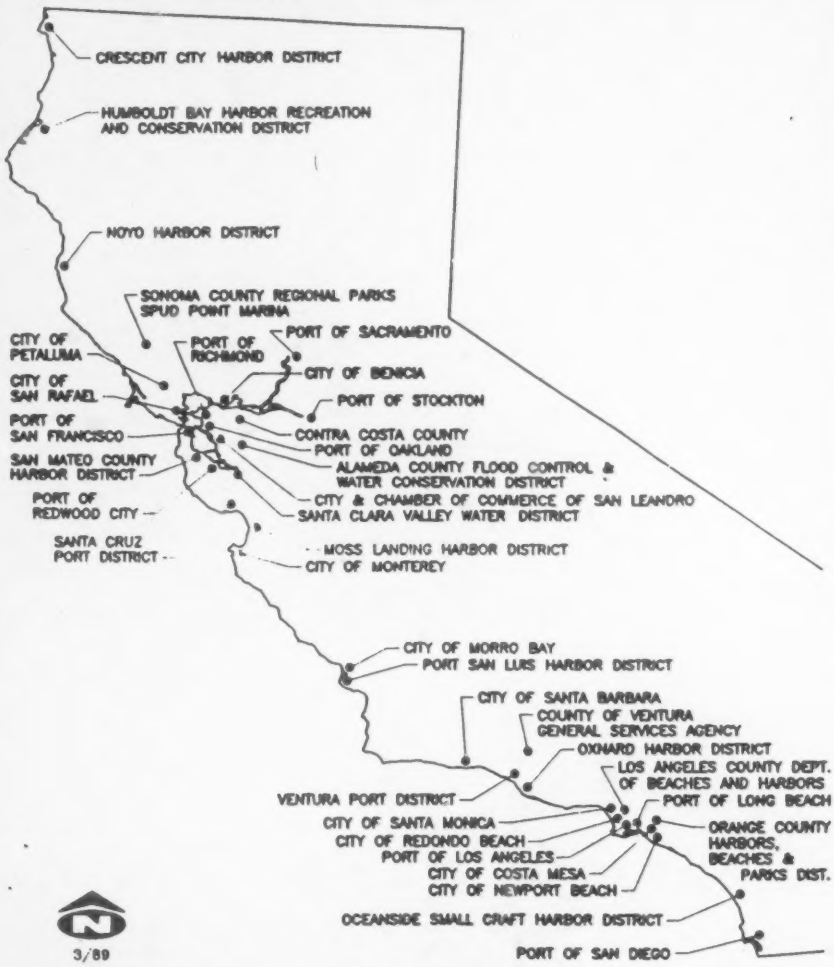
Thank you for providing once again this opportunity to submit this statement, to testify briefly, to receive our witnesses and to introduce again our "constituents" on hand. Your courtesy as always has our warm appreciation.

CALIFORNIA ORGANIZED 1964

Marine Affairs and Navigation Conference

303 WORLD TRADE CENTER SAN FRANCISCO, CALIFORNIA 94111 FAX (415) 982-7388 TEL (415) 982-7780

MEMBERSHIP ORGANIZATION MAP
(Public Agencies)


CRESCENT CITY HARBOR DISTRICT
HUMBOLDT BAY HARBOR RECREATION AND CONSERVATION DISTRICT
NOYO HARBOR DISTRICT
SONOMA COUNTY REGIONAL PARKS SPUD POINT MARINA
CITY OF PETALUMA
PORT OF RICHMOND
PORT OF SACRAMENTO
CITY OF BENICIA
CITY OF SAN RAFAEL
PORT OF STOCKTON
PORT OF SAN FRANCISCO
CONTRA COSTA COUNTY
PORT OF OAKLAND
SAN MATEO COUNTY HARBOR DISTRICT
ALAMEDA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
PORT OF REDWOOD CITY
CITY & CHAMBER OF COMMERCE OF SAN LEANDRO
SANTA CLARA VALLEY WATER DISTRICT
SANTA CRUZ PORT DISTRICT
MOSS LANDING HARBOR DISTRICT
CITY OF MONTEREY
CITY OF MORRO BAY
PORT SAN LUIS HARBOR DISTRICT
CITY OF SANTA BARBARA
COUNTY OF VENTURA GENERAL SERVICES AGENCY
OXNARD HARBOR DISTRICT
LOS ANGELES COUNTY DEPT. OF BEACHES AND HARBORS
VENTURA PORT DISTRICT
PORT OF LONG BEACH
CITY OF SANTA MONICA
ORANGE COUNTY HARBORS, BEACHES & PARKS DIST.
CITY OF REDONDO BEACH
PORT OF LOS ANGELES
CITY OF COSTA MESA
CITY OF NEWPORT BEACH
OCEANSIDE SMALL CRAFT HARBOR DISTRICT
PORT OF SAN DIEGO
N
3/89

Public agency members shown represent only those associated with a specific geographical spot. For a complete listing of all members contact the CMANC office.

C-MANC supports fully the President's Budget, and further, recommends additional funding of a limited number of projects.

(Amounts in Thousands)

Project	Total Cost C of E	Balance After FY 1988	FY 1989 Conference Allowance	FY 1989 Work Allowance	FY 90 C-MANC Recommendations President's Budget	FY 90 C-MANC Recommendations Additional Total Recommendations (When Greater than Budget)	Purpose of Funding
		FY 1990					
POTENTIAL NEW SHORELINE PROTECTION STUDIES							
Pacific Coast Shoreline, Carlsbad	450	450	0	0	0	450	Complete Recon Report
San Francisco County, Ocean Beach	350	350	0	0	0	350	Complete Recon Report
Point Mugu to San Pedro Breakwater	440	316	0	0	0	316	Complete Recon Report
SHORELINE PROTECTION STUDIES IN PROGRESS							
Santa Barbara County	940 1/	510	200	100	250	n/c	Continue Feasibility Study
SPECIAL STUDIES							
Coast of California, Storm & Tidal Waves	7,870	1,573	1,000	1,000	573	1,073	Expand study to permit examination of Los Angeles-Orange County and Monterey Bay coastlines
POTENTIAL NEW NAVIGATION STUDIES							
Monterey Harbor	310	310	0	0	310	n/c	Complete Recon Report
Newport Bay Harbor	270	270	0	0	0	270	Complete Recon Report
North Coast of Los Angeles County	510 2/	345	0	0	0	345	Complete Recon Report
San Leandro Bay	375 3/	325	0	0	0	325	Complete Recon Report
Santa Cruz Harbor	350	350	0	0	0	350	Complete Recon Report
West Newport Beach Harbor	270	270	0	0	0	270	Complete Recon Report

1/ Includes $91 incurred prior to 30 June 1975.

2/ Includes $165 incurred prior to 30 September 1977.

3/ Includes $50 incurred prior to 30 September 1978.

C-MANC supports fully the President's Budget, and further, recommends additional funding of a limited number of projects.

(Amounts in Thousands)
FY 1990

Project	Total Cost C of E	Balance After FY 1988	FY 1989 Conference Allowance	FY 1989 Work Allowance	FY 90 C-MANC Recommendations President's Budget	FY 90 C-MANC Recommendations Additional Total Recommendations (When Greater than Budget)	Purpose of Funding
NAVIGATION STUDIES IN PROGRESS							
Humboldt Harbor & Bay (Deepening)	875	875	350	350	315	n/c	Continue Feasibility Study
Los Angeles-Long Beach Harbors	7,820	49	49	49	0	0	Funded for Completion
Marin County Shoreline	600	200	250	150	50	n/c	Complete Feasibility Study
San Rafael Canal	644 4/	110	220	110	0	0	Funded for Completion
Morro Bay Harbor	730	36	36	36	0	0	Funded for Completion
Redondo Beach Harbor (King Harbor)	4,274	277	222	212	65	n/c	
San Francisco Bay Shoreline	(2,020)	(0)	(0)	(0)	(0)	(0)	Funded for Completion
Int #1 (S. Alameda & Santa Clara)	(1,334)	(0)	(0)	(0)	(0)	(0)	Funded for Completion
Int #2 (San Mateo & N. Alameda)	(920)	(277)	(222)	(212)	(65)	n/c	Complete Feasibility Study
Int #3 (North Bay)	420	151	130	88	63	n/c	Complete Feasibility Study
Santa Barbara Harbor (Restudy)	400	240	100	100	140	n/c	Complete Feasibility Study
Santa Monica Breakwater	2,980	925	100	0	0	925	Complete Feasibility Study
Sunset Harbor (Bolsa Chica)							

4/ Includes $154 incurred prior to 30 September 1978.

C-MANC supports fully the President's Budget, and further, recommends additional funding of a limited number of projects.

(Amounts in Thousands)

Project	Total Cost C of E	Balance After FY 1988	FY 1989 Conference Allowance	FY 1989 Work Allowance	FY 90 C-MANC Recommendations President's Budget	FY 90 C-MANC Recommendations Additional Total Recommendations (When Greater than Budget)	Purpose of Funding
			FY 1990				
POTENTIAL NEW PRECONSTRUCTION ENGINEERING AND DESIGN							
Morro Bay Harbor	2,600 (450)	(450)	(0)	(0)	(200)	n/c	Initiate Design
Santa Barbara Harbor	3,500 (470)	(470)	(0)	(0)	(0)	(300)	Initiate Design
CONTINUING PRECONSTRUCTION ENGINEERING AND DESIGN							
Los Angeles - Long Beach Harbors	310,000 (2,020)	(2,020)	(250)	(0)	(0)	(1,500)	Initiate Design
Noyo River and Harbor (Breakwater)	6,100 (1,560)	(337)	(200)	(200)	(137)	n/c	Complete Design
Noyo River and Harbor (Channel Extension)	2,050 (580)	(0)	(0)	(0)	(0)	(0)	Funded for Completion
Oceanside Harbor	2,700 (750)	(750)	(240)	(200)	(450)	n/c	Continue Design
Redondo Beach (King Harbor)	4,160 5/ (720)	(620)	(500)	(500)	(120)	n/c	Complete Design
Ventura Harbor	6,400 (750)	(750)	(100)	(100)	(440)	n/c	Continue Design

5/ Cost based on Survey Report (Storm Damage Reduction 65% Fed - 35% non-Fed).

C-MANC supports fully the President's Budget, and further, recommends additional funding of a limited number of projects.

(Amounts in Thousands)

Project		Total Cost C of E	Balance After FY 1988	FY 1989 Conference Allowance	FY 1989 Work Allowance	FY 1990 President's Budget	FY 90 C-MANC Recommendations Additional Total Recommendations (When Greater than Budget)	Purpose of Funding
POTENTIAL NEW CONSTRUCTION PROJECTS								
Redondo Beach (King Harbor)	(N)	4,160 6/	3,440	0	0	0	250	Initiate Breakwater Construction
CONTINUING CONSTRUCTION PROJECTS								
Oakland Harbor	(N)	53,600	48,736	10,000	4,000	3,500	n/c	Continue Construction
Port San Luis	(N)	12,100	11,210	0	0	0	0	
Richmond Harbor	(N)	12,400	10,191	430	800	900	n/c	Continue Construction
Sacramento River Deep Water Ship Channel	(N)	21,600	19,147	5,300	1,400	2,800	n/c	Continue Construction
San Francisco Bay to Stockton (John F. Baldwin & Stockton Ship Channels)	(N)	147,700	94,560	1,700	1,767	2,650	n/c	Continue Construction
Imperial Beach	(BE)	3,340	0	0	0	0	0	No requirement pending resolution of litigation
Surfside-Sunset & Newport Beach	(BE)	32,500	22,778	1,300	1,300	4,470	n/c	Complete Periodic Beach Nourishment

6/ Cost based on Survey Report (Storm Damage Reduction 65% Fed - 35% non-Fed).

C-MAMC supports fully the President's Budget, and further, recommends additional funding of a limited number of projects.

(Amounts in Thousands)

Project	FY 1988 Obligations	FY 1989 Estimated Obligations	FY 1990 President's Budget	FY 90 C-MAMC Recommendations Additional Total Recomendations (When Greater than Budget)	Purpose of Funding
OPERATIONS AND MAINTENANCE PROJECTS					
Bodega Bay Harbor	0	0	0	0	No maintenance required
Channel Islands Harbor	83	4,000	0	0	No maintenance required
Crescent City Harbor	1,600	832	1,415	n/c	Breakwater repair, and dolosse monitoring
Dana Point Harbor	0	0	0	200	Structural analysis of breakwater
Halfmoon Bay Harbor (Pillar Point Harbor)	0	0	0	n/c	No maintenance required
Humboldt Harbor and Bay	2,635	1,312	2,364	n/c	Dredging
Los Angeles - Long Beach Harbors	1,503	334	0	3,000	Continue dredging
Los Angeles - Long Beach Harbors Model	1,449	895	930	n/c	Continue Model upgrade
Marina Del Rey	0	178	0	150	Structural analysis of breakwater
Morro Bay Harbor	24	181	0	2,300	Periodic dredging
Moss Landing Harbor	19	0	0	750	Periodic dredging
Napa River	723	1,502	0	n/c	No maintenance required
Newport Bay Harbor	0	0	0	n/c	No maintenance required
Noyo River and Harbor	387	71	0	1,300	Dredging, and breakwater repairs
Oakland Harbor	1,941	1,499	1,734	n/c	Dredging
Oceanside Harbor	571	0	0	800	Dredging
Oceanside Experimental Sand Bypass System	1,250	1,548	0	4,000	Operation of Phase I, and construction of Phase II
Petaluma River	1,051	660	1,200	n/c	Periodic dredging
Port Hueneme	0	0	0	n/c	No maintenance required
Port San Luis	0	0	0	n/c	No breakwater maintenance required
Redondo Beach Harbor (King Harbor)	2,313	222	0	n/c	No maintenance required
Redwood City Harbor	0	255	0	n/c	No maintenance required
Richmond Harbor	613	2,056	2,056	n/c	Dredging

C-MANC supports fully the President's Budget, and further, recommends additional funding of a limited number of projects.

(Amounts in Thousands)
FY 1990

Project	FY 1988 Obligations	FY 1989 Estimated Obligations	FY 90 C-MANC Recommendations: President's Budget	FY 90 C-MANC Recommendations: Additional Total Recommendations (When Greater than Budget)	Purpose of Funding
OPERATIONS AND MAINTENANCE PROJECTS					
Sacramento River					
Sacramento River (30 ft.)	139	281	610	n/c	Bank stabilization
Sacramento River (Shallow Draft)	112	79	75	n/c	Maintain lock
San Diego Harbor	320	861	0	n/c	No maintenance required
San Diego River & Mission Bay	287	73	0	n/c	No maintenance required
San Francisco Bay-Delta Model Structure	1,047	1,724	1,713	n/c	Annual maintenance, and roof repair
San Francisco Harbor	2,616	2,382	2,290	n/c	Dredging
San Joaquin River	89	1,030	1,063	n/c	Dredging
San Leandro Marina (Jack D. Maltester)	0	242	0	1,000	Periodic dredging
San Pablo Bay and Mare Island Strait	792	3,199	1,737	n/c	Dredging
San Rafael Creek	212	0	0	n/c	No maintenance required
Santa Barbara Harbor	898	979	0	1,000	Dredging
Santa Cruz Harbor	67	0	0	n/c	No maintenance required
Suisun Bay Channel	300	948	1,354	n/c	Dredging
Suisun Channel	0	0	0	1,000	Periodic dredging
Ventura Harbor	1,584	1,520	1,554	n/c	Dredging
Drift Removal (S.F. Harbor and Bay)	1,567	1,485	1,937	n/c	Annual maintenance
		#	#	#	

VENTURA HARBOR, CA

STATEMENT OF RICHARD PARSONS, CHAIRMAN OF THE BOARD AND GENERAL MANAGER, VENTURA PORT DISTRICT

Mr. LANGNER. We begin with the chairman of our organization, Richard Parsons, who is general manager of the Ventura Port District.

Mr. PARSONS. Mr. Chairman, I appreciate this opportunity to present testimony before this committee. I want to indicate that we are deeply disturbed by the proposals put forth by the administration to eliminate the Federal Government's historic role in the operation and maintenance of the navigation features associated with low-use commercial and recreational harbors. Such proposals breach the understanding and cooperation that has evolved over the past century with the Federal Government's interest in and support of harbors.

I hope that in this era of Federal budget and deficit problems a constructive approach to the survival of the Nation's system of harbors and waterways can be found. We pledge our cooperation in that effort, but we would indicate that at this point, we have not seen what we would consider to be a cooperative approach at all. I am referring certainly not to the committees of Congress but to the proposals put forth by the administration.

PREPARED STATEMENT

For the record, I also have a statement I would like to submit for the Ventura Port District. I thank you.

[The statement follows:]

STATEMENT OF RICHARD PARSONS

Ventura Harbor is located along the Southern California coastline in the City of San Buenaventura, approximately 60 miles northwest of the City of Los Angeles. The Harbor opened in 1963. Annual dredging of the harbor entrance area is usually necessary inorder to assure a navigationally adequate channel. In 1968, the 90th Congress made the harbor a Federal project and committed the U.S. Army Corps of Engineers to provide maintenance dredging and a solution to the entrance problem. A detached breakwater and sand trap area, completed by the Corps of Engineers in 1972, alleviated some of the more damaging difficulties but continuing navigational problems have persisted. Additionally, the need for annual maintenance dredging continued, and the Corps of Engineers and the Ventura Port District have conducted maintenance dredging of the Harbor entrance within the limits of their jurisdiction from 1968 through the present time.

The harbor presently generates more then $30 million in gross receipts annually. That of course translates into thousands of both direct and indirect jobs. A significant portion of those jobs are associated with the commercial fishing industry and with vessels serving the offshore oil industry. Additionally, the headquarters for the Channel Islands National Park is located within the harbor, and the commercial vessels transporting visitors to and from the Park are now carrying over 50,000 people per year.

All of the operations of the Harbor, particularly those related to commercial fishing and the support boats for the oil industry, are highly dependent upon a navigationally adequate entrance to the Harbor. It is therefore respectfully requested that the Congress support the Army Corps of Engineers FY89 Civil Works Budget request of $1,554,000 for the maintenance dredging of the Ventura Harbor entrance channel. The area of Corps of Engineers responsibility is illustrated in Photo No. 1.

The U.S. Army Corps of Engineers and the Ventura Port District are in the process of finalizing the feasibility phase of a cost shared navigation study of the existing deficiencies associated with the Ventura Harbor entrance. Photo No. 2 illustrates the study area. The study will recommend the construction of cost shared improvements or modifications of the existing Federal facilities to improve navigational safety within the harbor entrance and to reduce shoaling and maintenance dredging. Said improvements will include short extensions of the breakwater and of one of the existing jetties as well as the construction of a new 650 ft. groin.

Funds were appropriated by the Congress in FY89 to initiate the design phase of this navigation study. In order to assure that this project moves forward expeditiously, The Congress is urged to support the Army Corps of Engineers FY89 Civil Works Budget request of $440,000 to continue the preconstruction engineering and design of the recommended project.

LETTER FROM RICHARD S. HAMBLETON, JR., CHAIRMAN, BOARD OF PORT COMMISSIONERS

March 17, 1989

Honorable J. Bennett Johnson, Chairman
Subcommittee on Energy and Water Development
Committee on Appropriations
131 Dirksen Senate Office Building
Washington, D. C. 20510

Re: Federal Funding of Operations and Maintenance Costs Associated with the Ventura Harbor Federal Channel

Dear Mr. Chairmen:

The Board of Port Commissioners of the Ventura Port District is deeply disturbed by the Department of the Army's proposal to eliminate the historic federal responsibility for the operations and maintenance costs associated with low use commercial and recreational navigation projects. This proposal, if implemented, would lead to the development of dangerous shoal conditions in Ventura Harbor's federal channel and would as a consequence seriously threaten the harbor's very economic viability.

More than $30 million of gross receipts is presently generated annually within the harbor. That of course translates into thousands of both direct and indirect jobs. For the Department of the Army to even suggest a policy that not only threatens that existing economic activity, but that would also short-circuit the Port District's efforts to expand that activity, without any assessment of the policy's effects upon the local and national economy as well as upon federal revenues and expenditures is unconscionable. We do not believe that it can possibly be in the national interest to shut down Ventura Harbor and numerous others like it throughout the country.

We appreciate and share your concern with the need to pursue efforts to reduce the federal deficit. But such efforts must be pursued in a reasoned, well thought out manner, not in a shoot from the hip style. We urge you, therefore, to encourage the Department of the Army to examine other approaches and alternatives to achieve expenditure reductions in the civil works area and to include within said examination an assessment of the impacts of any recommendations. The Ventura Port District is prepared to cooperate in any appropriate way in such an examination process.

In the interim, we request your support of operations and maintenance funding of $1,554,000 in the FY 90 Energy and Water Development Appropriations Bill for Ventura Harbor's federal entrance channel.

Thank you,

Richard S. Hambleton, Jr.
Chairman
Board of Port Commissioners

James H. Osborn
Vice Chairman

Russ Smith
Secretary

John J. Hammer
Commissioner

Lawrence L. [illegible]neney
Commiss[illegible]er

Mr. LANGNER. We have a series of mayors with us today, Mr. Chairman, starting with Mayor Dave Karp of the city of San Leandro.

Mr. KARP. Thank you very much.

Senator REID. Mr. Mayor, I wonder if you could withhold for a moment. A former colleague of mine, the chairman of the Public Works Committee, has just come here.

Mr. KARP. I shall yield.

Senator REID. And, more importantly, he is a former Lieutenant Governor and that is why he has precedence.

Mr. KARP. Also an honorary mayor of my city.

Senator REID. Mr. Chairman, we welcome you to the committee, and if you have a statement, you could proceed at this time.

STATEMENT OF GLENN M. ANDERSON, U.S. REPRESENTATIVE FROM CALIFORNIA

Mr. ANDERSON. Thank you, Harry. And in the meantime, you know we always felt that we were from the same State.

Senator REID. I already gave them that speech.

Mr. ANDERSON. OK. Mr. Chairman, I want to compliment you and the subcommittee for holding this hearing today. And I know that you have the unenviable job of making difficult decisions every year on which projects are to be funded, and at the same time, you have only limited funds available to you. And your subcommittee has handled this task with fairness and with comprehensive knowledge of the issues.

I am going to describe several projects for you, some of which are in my district and some of which are near by. I have an interest in all of them because the Los Angeles basin is one interconnected metropolitan area with roughly 12 million people.

We have a huge port complex. We have massive flood control problems that endanger millions of people and their property. And we have to deal with the problems caused by nature, but we also have to prepare for the growth that is projected to exceed the populations of most States in the country. And our needs are unique in scale but they must be faced.

LOS ANGELES AND LONG BEACH HARBORS, CA

The feasibility study for the Army Corps of Engineers' Los Angeles and Long Beach Harbor 2020 master plan is now nearing completion. And this study explores expansion of facilities at what are now regarded as the busiest and most successful port complex in the Nation. And with our Nation's trade with the Pacific rim ever increasing, improvements are certainly needed. And I am pleased to say that the study should be concluded shortly.

However, as we are now talking about fiscal year 1990 funding, we must also look beyond the study phase. The next phase of the project after the completion of the feasibility study is the planning, engineering and design, or the PED stage. This involves numerical and physical testing and other studies needed for the permitting process.

In order to forge ahead and on schedule to finish and build upon the work of the feasibility study, I urge the committee to fund com-

pletion of the study and the initiation of the PED phase of the project with an appropriation in the amount $1.5 million for fiscal year 1990.

I have requested funds for this project and I can do this enthusiastically because, while this project will cost $1.5 million this year, the ports' area will bring in almost $2.6 billion in Customs revenue for the Treasury this year alone.

And what is more, with the work scheduled for fiscal year 1990 and the improvements coming in future years, the Ports of Los Angeles and Long Beach will bring in Customs revenue of over $6 billion a year by the year 2020.

It is kind of interesting to me, and of course, the figures they have given me on this, naturally make us feel very good. These 4 years that we have just completed from 1986 to now, we have been making roughly a little over $1.5 billion a year in clear profit for the Federal Government.

In the 1990's, they tell me, we are going to be making $4 billion every year clear for the Federal Government. When we start the year 2000 and go to 2020, it will be $6 billion a year clear profit; and when we get to 2020 they tell me it will be $6.2 billion.

Now, if you just multiply that, that is $6 billion these first 4 years, $40 billion the next 10 years, and $120 billion for the next 20, that means we will be receiving in our Treasury, the U.S. Treasury, $166 billion in clear cash. And when we think that probably while we are talking about in that port development, it is in the neighborhood of maybe $4.5 billion, for $4.5 billion, we are going to be getting $166 billion back.

I think that the committee will agree with me that this project may rightfully be thought of, not as an expense, but as a wise expense that will bring much cash back into the Federal Treasury.

Now, in order to implement any expense—incidentally, one other thing. Out in my district, and I have hunch you get the same question, people say, we got the big deficit. Are you going to raise taxes? How are going to try to raise that money?

This $166 billion we are bringing in does not cost one penny of taxes. It is no raise at all. It will not eliminate the national debt. But $166 billion will put a good hole in that national debt.

Now, in order to implement any expansion of the ports, the harbor hydraulic model at the Corps of Engineers' Waterways Experiment Station in Vicksburg, MS, must be upgraded. Ship and wave motion, tidal circulation, and flushing must be examined and understood in order for the proper conditions to be maintained in the sheltered waters of the ports and to ensure safe navigation and docking.

And I respectfully request this committee appropriate $930,000 in fiscal year 1990 in order to continue this model study. I have been a long time supporter of the Vicksburg facility. I view it as an educational facility that may serve as an academy for the Army Corps, and I think it is only a matter of a few years that the Army Corps will refer to it as the academy. And so I do support very strongly the Vicksburg project.

LOS ANGELES RIVER DREDGING

Now, the Los Angeles River, which is so vital to storm water management in southern California is also vital to navigation in the Long Beach Harbor. Unfortunately, flood water runoff has brought down large amounts of silt, which have been deposited in the navigable waters of the harbor, increasing the likelihood of flooding.

This accumulation has also been slowing the movement of both commercial and recreational vessels and, more importantly, is making navigation outright dangerous.

I request this committee to appropriate $1.5 million for a remedial maintenance dredging in the fiscal year 1990.

Additionally, there has been a question of congressional intent regarding this project, and as a result, I am asking you to provide statutory language regarding the spending of these funds.

LOS ANGELES COUNTY DRAINAGE AREAS PROJECT

I have alluded to the importance of the Los Angeles River to storm water management in southern California. And owing to the phenomenal growth that our region has had and is forecast to experience, flood control issues are becoming critical.

The Army Corps of Engineers is preparing to enter the planning, engineering, and design stage following its completion of the study of this extensive drainage system, protecting 7.7 million people through a network of 19 dams, 129 debris basins, and 470 miles of channels.

And to see that this major project proceeds on schedule, I am requesting $3 million for PED for fiscal year 1990. And in this project, we are planning flood control protection for a major portion of Los Angeles County.

And there are other projects which I believe should claim funding in fiscal year 1990.

First would be the Palos Verdes landslide. The existing reconnaissance study of the landslide at Rancho Palos Verdes should be expanded to include an examination of the destruction of tidal habitat, an issue that we should all be concerned about now. An additional $90,000 is needed for that purpose along with statutory direction to spend the funds.

King Harbor, a project in which I have had a long interest is King Harbor in Redondo Beach. There is a need for $120,000 to finish the general design memorandum on raising the lower breakwater to 20-plus feet and $250,000 to begin construction on raising the breakwater. And I hope the subcommittee will fund this improvement that is necessary to provide protection to the harbor area from the ravages of winter storms.

The very important Santa Ana flood control project is ready for construction. The Corps can use $20 million in construction funds.

And I would request that if there is funding of new starts this year, Santa Ana be included on that list.

I request for Oceanside $1.5 million for operation and monitoring of their experimental sand bypass system and an additional $2.5 million to complete the experimental phase of the project.

This project is important because it will not only reduce the need for the dredging of Oceanside Harbor, but the technology developed there will have additional application in other parts of the country as well.

Ventura Harbor, which generates $30 million annually in gross receipts, requires $1.5 million for maintenance dredging. And I urge the subcommittee to support the Corps' request for that amount, as well as $440,000 for a pre-construction engineering and design improvements to the harbor entrance.

And there is one final issue that I would like to bring to the subcommittee's attention.

As has been widely documented, the southern California area faces the threat of a massive earthquake, and I believe we should begin to make preparations for the rebuilding of the Los Angeles basin's public works infrastructure, should that massive earthquake ever take place. Funding should be provided to the Corps to conduct that study subject to the authorization which will be provided by the Committee on Public Works and Transportation. And I would request funding in an amount of $1.5 million.

I want to thank you very much for your time. I am sorry I had to make this list, but it is kind of an area that I am working very heavily on.

And thank you very much, Harry.

Senator REID. Mr. Chairman, I think that for someone from the desert, and I think that a lot of people in this country, the interior part of the United States do not understand the importance of ports and I think you clearly painted a picture that I was not familiar with. That is, the tremendous revenue potential if we did a better job of developing our ports. So I appreciate the testimony.

Mr. ANDERSON. You almost make me say something else just to tell you how sometimes these things happen.

I was not too aware, and I have lived in that area all my life, but as Lieutenant Governor, I have been chairman of the State Lands Commission so I knew problems down the Long Beach-Los Angeles Port area, when everything was sinking down there, and we stopped that.

But I also felt at that time, neither port was making any money. And so then I became the Congressman and I felt there was something that could be done. And I think probably one of the smartest things I ever did, I got, first I asked for 150,000 bucks and I found out later you can't get the Army Corps to cough for 50,000 bucks.

So I had to raise it, I think, to $350,000 for a study of what could be done to take two ports that were described as two sleeping ports that didn't get along. And they gave us a good report. And we have been following that recommendation now literally.

And since we have done that we have changed two sleepy little ports now to the most successful, busiest port complex in the country and soon to be in the world. And we will be making for the U.S. Treasury $166 billion in clear profit.

You know, that is pretty good when 15 years ago they were two sleepy little ports that were not making any money. So I mean some of these times when we do build infrastructure projects, whether it be bridges or ports or highways or something, it is not

money wasted, it is money that brings money back into the Treasury and saves the people a lot.

Senator REID. Great testimony; thank you.

Mr. ANDERSON. Thank you very much, Harry. And thank you for letting me break in.

Senator REID. Indeed, it was a pleasure.

Mr. LANGNER. Although I come from the northern part of the State, we take a statewide approach, Mr. Chairman, and I want to add that the Ports of Los Angeles-Long Beach have the greatest number of vessels arriving over any port area in the United States.

Back to Mayor Karp.

Senator REID. Mayor.

MAINTENANCE DREDGING OF SMALL BOAT HARBORS

STATEMENT OF DAVID KARP, MAYOR, SAN LEANDRO, CA

Mayor Karp. Thank you very much, Mr. Chairman.

I appreciate the opportunity to appear here before the Senate Appropriations Subcommittee on Energy and Water Development.

I want to first of all thank you, Mr. Chairman, and thank the committee for all the help that they have given us in the past. Without your help, we would not have a viable marina.

I come from the city of San Leandro which is about 70,000 population. The crowning jewel of that city is this marina. The marina is a small marina of approximately 250 berths; which has actually developed from that particular marina, hotels, a golf course, parks, in addition, restaurants.

The marina is also sort of a headquarters for our search and rescue. If there are any boats out in the bay that have a problem, the first action is to call our marina. They go out and they do the search and rescue. The channel that we have is called the Jack D. Multester Channel. That channel under the new appropriations which has been suggested by the Bush administration is not allowing for any money in the future for our dredging.

I appeal to this committee that in the future money be set aside for small boat harbors. With that I thank you very much, Mr. Chairman.

Mr. LANGNER. We next have Mayor Larry Bagley, city of Oceanside.

OCEANSIDE EXPERIMENTAL SAND BYPASS SYSTEM

STATEMENT OF LARRY BAGLEY, MAYOR, OCEANSIDE, CA

Mayor Bagley. Mr. Chairman, we have submitted written testimony on the maintenance program. We fully support the stand of C-MANC on this. We have submitted a written report on the engineering and design of the breakwater in Oceanside Harbor and a written report on the bypass system. It is relative to this latter that I would like to make a further statement.

The Division of the Corps of Engineers in San Francisco has prepared a position paper relative to the bypass system in Oceanside which has been forwarded to headquarters. And I would like to read this recommendation that they have made into the record.

Continue operation of phase 1 in fiscal year 1990 and construct test phase 2. Use the July 1989 milestone to determine a further involvement as warranted. If successful, operate and maintain phase 1 for 1 year and construct and test phase 2. Evaluate the minimum sand bypass system and determine if further Federal expenditures are warranted after the 1-year system operation in July 1990.

PREPARED STATEMENT

In our written testimony we have requested the total amount of $4 million. We feel after discussing this with the Corps that we could accomplish this program with $3.7 million and, therefore, that is our amended request, and I would like to take this opportunity to thank Chairman Anderson, certainly for his support on our project.

[The statement follows:]

STATEMENT OF LARRY M. BAGLEY

The City of Oceanside is requesting that Congress appropriate $4.0 million in the FY90 budget for the operation and addition of fluidizers to the Oceanside Sand Bypass System. Operation of the bypass system, as directed by Congress in 1981, will eliminate the need for frequent, costly maintenance dredging of Oceanside Harbor, which has been done at full federal expense. The bypass will also ensure continual replenishment of Oceanside's beach, which has been seriously eroding as a result of federal construction of the Camp Pendleton Harbor during World War II.

The recommended sand bypass design represents a state-of-the-art alternative to traditional maintenance dredging, and has the potential for greatly reducing channel maintenance costs over the long term. As such, the prototypical sand bypass system developed at Oceanside could lead to substantial cost savings in maintenance dredging nationwide. This is especially important in light of the Administration's desire to trim federal operations and maintenance costs.

The bypass has been designed by top experts from the Corps of Engineers and the scientific community. The Corps of Engineers has spent $12.9 million to design and install the developmental phase of the project. Testing of the installation is now underway, and full operation is slated to begin in July, 1989.

The City of Oceanside is requesting $1.5 million for operation and monitoring of the system, and $2.5 million for construction of Phase II of the project in FY90. The installation of Phase II of the system in FY90 (that is, the construction of crater-fill fluidizers in the channel entrance) will allow the experimental cost of the sand bypass system to be reduced overall, and at the same time, will hasten the experimental benefits of the system. The ability of the fluidizers to direct sand toward the jet pumps represents one of the most significant aspects of the experiment. The operation of the jet pumps alone during FY89 will be sufficient to determine the efficiency of that component of the system. To extend that portion of the experiment for another full year would add an unnecessary year of costs, without providing any additional data. Furthermore, the Corps will not obtain sufficient information to compare the costs of a fixed sand bypass system to a traditional dredge until a fully-operational system of jet pumps and fluidizers is installed.

Congress previously noted that Oceanside suffers severe economic losses due to the harbor shoaling and beach erosion problems. Operation of the initial phase of the sand bypass system, and installation of the fluidizers, which will greatly expand the effectiveness of the jet pumps, is needed immediately to:

- Provide continuous maintenance dredging for a vital military installation, Camp Pendleton Harbor, as well as a U. S. Coast Guard Port of Refuge;

- Protect the federal investment of $12.9 million for the capital and development costs of the system;

- Prevent extensive deterioration of the existing installation. Any lack of maintenance in FY90 could make re-start of the system at a later date cost-prohibitive;

- o Develop technology for reducing federal maintenance dredging expenditures nationwide;
- o Spur the economic recovery of Oceanside's depressed tourist industry and deteriorated shorefront and downtown;
- o Allow a construction moratorium imposed by the Coastal Commission along a one-half mile stretch of coastline to be lifted;
- o Prevent further property losses. Erosion damage to public facilities in 1988 totaled nearly $300,000. Private property owners spent over $700,000 for repairs;
- o Forestall the spread of devastating erosion to downcoast beaches.

The Oceanside Sand Bypass has been universally endorsed by the public, elected officials, and shoreline experts. There is no known opposition to this project. I have provided to the Committee copies of statements of support from downcoast communities, our State elected representatives, and a number of public organizations.

On behalf of the citizens of Oceanside, I thank the Committee for your ongoing support for this vital project.

Oceanside Harbor Maintenance Dredging
Oceanside, California

The Oceanside Harbor District, City of Oceanside, California, respectfully requests that the United States Congress appropriate $800,000 for maintenance dredging of the Oceanside Harbor entrance. This project is required to alleviate inner-harbor surge generated from shoaling at the harbor entrance and for safe navigation of the entrance channel.

In 1942, the Del Mar Boat Basin was constructed by the Department of the Navy at Camp Pendleton. The basin was constructed for training amphibious forces of the Marine Corps. Being built as a war-time measure, little consideration was given to the effect of the harbor structures on the surrounding physical environment. As a result, sedimentation in the harbor entrance and erosion of downcoast beaches was noticed almost immediately. Maintenance dredging of Oceanside Harbor should continue to be a Federal responsibility in accordance with the 1965 River and Harbor Act.

Elimination of federal operations and maintenance funding for small harbor projects, less than 25,000 tons of commercial cargo annually, does not take into consideration their contribution to the socio-economic well-being of the communities they serve. The proposal to use commercial cargo tonnage as the sole determinant for project eligibility fails to recognize the many other important benefits provided by these harbors, many of which, like ours, support the mission of federal agencies.

Oceanside Harbor serves as the entrance to USMC Camp Pendleton for military vessels and provides berthing for the Coast Guard cutter Point Hobart. More than one-quarter of harbor traffic is commercial fishing boats or military vessels. Without your support, many of the harbors of refuge which cannot support their dredging requirements, such as Oceanside, would be jeopardized.

I urge your support for continued Federal funding of maintenance dredging projects for small craft harbors and harbors of refuge.

This request is submitted on behalf of the Oceanside Harbor District and its governing body, the City Council of the City of Oceanside, sitting as the Harbor District Board of Directors.

Oceanside Harbor Breakwater
Oceanside, California

The Oceanside Harbor District, City of Oceanside, California, urges your support of the Administration's proposed appropriation of $450,000 in Fiscal Year 1990 to continue funding preconstruction engineering and design, including plans and specifications, for the Oceanside Harbor Breakwater Modifications Project.

This project modifies the protective structures of Oceanside Harbor to reduce storm damages in the harbor and to improve the safety of the entrance channel for navigation.

Due to the configuration of the harbor entrance, waves from the south and southwest penetrate relatively uninterrupted through the main channel entrance and towards the inner harbor. Estimated average annual losses from the frequent repair and replacement of floats, piles and revetment, and damages to commercial and recreational craft in the harbor, are $517,000.

Waves also frequently break at the harbor entrance due to a combination of shoaling and high waves and results in hazardous navigation in the channel. This results in lost income to harbor operations of $87,000 annually and vessel damages in the entrance of $50,000 annually. Eleven persons have died at Oceanside Harbor attempting to navigate in the entrance since 1963.

The recommended plan involves extending the north breakwater 300 feet, and constructing a 180 foot stub groin off of the south jetty. The plan also recommends expanding an advance maintenance area in the entrance channel in order to maintain the authorized depth of minus 20 feet MLLW. The project will substantially reduce storm damages inside the harbor and breaking waves in the entrance channel. Because of the reduced waves, additional slips can be built in the inner harbor. The recommended project will not result in any significant adverse environmental impacts. The cost of the project is $4,966,500, of which $1,707,100 is our, the local agency, responsibility.

These modifications will correct the serious surge problem which causes extensive property damage within the Harbor and threatens the safety of both military, commercial and recreational boaters. This problem is particularly critical for the commercial vessels which use Oceanside Harbor as a home port on a year-round basis, and must rely on a safe port of refuge for their livelihood. We are currently expending over $6 million of public funds to rehabilitate the docking system and shoreline protection within the Harbor. Without correction of the breakwater defects, the lifespan of these improvements will be cut in half.

The requested improvements will also protect the U.S. Army Corps of Engineer's Experimental Sand Bypass System, which sits completely unprotected in the mouth of the harbor.

In addition to commercial fishing facilities, the Oceanside Harbor also supports numerous commercial establishments, which

rely on the safety and adequacy of boating facilities for their economic well-being. Oceanside Harbor is also the only port of refuge between Dana Point and San Diego, and is home base for the Coast Guard cutter Point Hobart. U.S. Navy vessels entering the USMC Camp Pendleton boat basin pass through the same breakwater entrance as boaters entering Oceanside Harbor.

These breakwater modifications, which are for navigation safety reasons and the prevention of wave-induced damage, are appropriate for Federal involvement. The Harbor District is willing to provide our fair share of project cost and requests that the U.S. Army Corps of Engineers, Civil Works Division, be directed to proceed with the project.

I urge your support to ensure that Oceanside Harbor and USMC Camp Pendleton boat basin have a safe entrance.

This request is submitted on behalf of the Oceanside Harbor District and its governing body, the City Council of the City of Oceanside, sitting as the Harbor District Board of Directors.

SANTA BARBARA HARBOR, CA

STATEMENT OF SHEILA LODGE, MAYOR, SANTA BARBARA, CA

PREPARED STATEMENT

Mr. LANGNER. Mayor Sheila Lodge of Santa Barbara

Mayor LODGE. Thank you. Without dredging, Santa Barbara Harbor will close within 1 year. The Coast Guard cutter, the oil containment vessel, the firefighting vessel would have to be relocated, doubling response time to life-threatening oilspill and oil platform emergencies.

We face the loss of 2,500 local jobs, 800 jobs nearby, and over $123 million in loss of income and investments.

Please continue the essential Federal funding for harbor channel dredging in Santa Barbara.

Thank you.

[The statement follows:]

STATEMENT OF SHEILA LODGE

The Administration's proposal to cease funding for maintenance dredging at Santa Barbara Harbor will have a serious impact on the economy and quality of life in our community. Santa Barbara Harbor will close within one year without maintenance dredging.

On a coastline with a history of violent and destructive storms, closure of Santa Barbara Harbor would mean no harbor of refuge for all vessels traveling between Ventura Harbor and Port San Luis, a distance of over 120 miles. The U.S. Coast Guard cutter berthed in the Santa Barbara Harbor would be relocated, doubling its response time to marine emergencies, at the expense of life and property, in the Santa Barbara and Point Conception areas. The oil containment vessel, a vital resource in the event of an oil spill, would relocate, doubling its response time to an oil spill emergency in the Santa Barbara Channel, causing increased ecological damage. The fire fighting vessel, committed to offshore oil-related fire suppression, would also be moved, leaving the many oil rigs in the Santa Barbara channel without fire protection.

Santa Barbara Harbor is a Class II harbor with waterborne commerce exceeding 25,000 tons annually. Closure would mean the loss of 2,500 jobs locally and another 800 jobs in Ventura and Los Angeles counties. Closure of the Santa Barbara Harbor means catastrophic loss for the City of Santa Barbara, with over $123,250,000 in estimated loss of income and investments, and the ruin of other coastal cities whose beaches are dependent upon being replenished by our dredged sand.

Until a permanent solution to the channel shoaling is found, entrance channel dredging is essential to the preservation of the local economy, the protection of the environment and the promotion of marine safety.

APPENDIX A

BACKGROUND

Santa Barbara Harbor is located on the coast of California between Port San Luis, 100 miles to the north, and Ventura Harbor, 20 miles to the south, and is protected by the Channel Islands, 25 miles offshore.

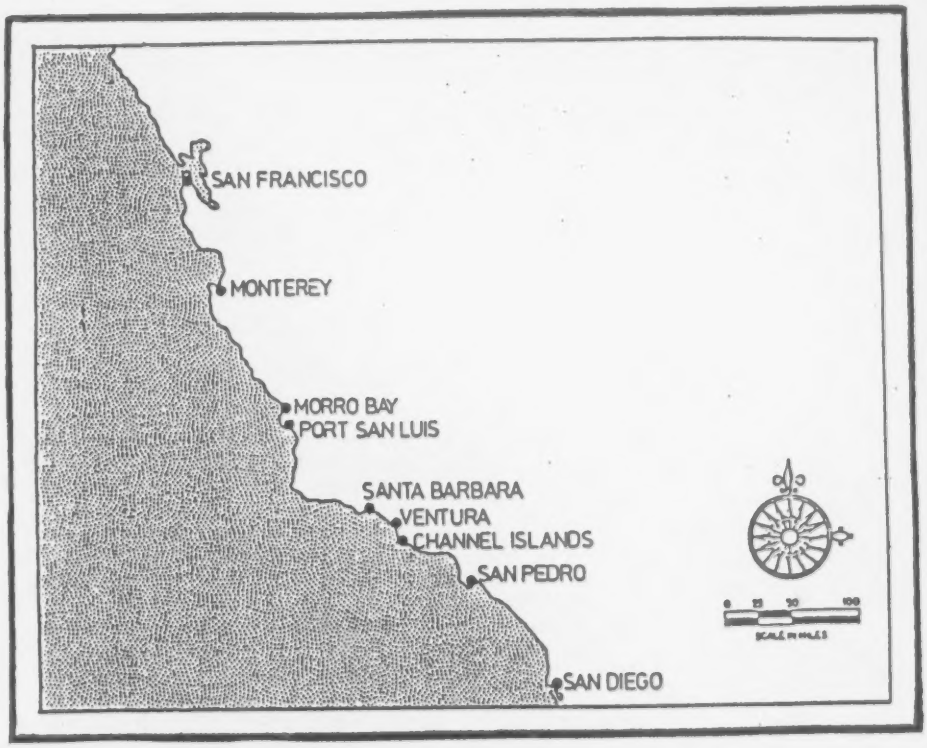
Although the two mile stretch of Santa Barbara waterfront makes an ideal bathing beach, without the Harbor, it offers no shelter against winter storms. Richard Henry Dana Jr., the author who visited Santa Barbara in 1834, aboard the Boston hide and tallow brig "Pilgrim," wrote in his classic book Two Years Before the Mast. "This wind [the sou'easter] is the bane of the coast of California...Vessels are obliged to lie at anchor three miles off the shore, with slip-ropes on their cables, ready to go to sea at a moment's warning..."

The Santa Barbara coastline has a history of violent storms, the most recent being the "100-year storm" of 1983, however, the Santa Barbara Harbor provides shelter for 1,000 boats, of which 150 are commercial fishing vessels year-round, ranging in size from 25 feet to over 130 feet. The Harbor provides refuge for boats traveling in the area and for commercial vessels engaged in seasonal fishing. Up to 100 visiting boats, mostly commercial, utilize the Santa Barbara Harbor on any given day.

The Santa Barbara Harbor has been subject to sand shoaling due to littoral drift since its creation. Annual dredging, under the direction of the U. S. Army Corps of Engineers, has been required every year, in order to keep the channel open to navigation. An average of 350,000 cubic yards of sand must be dredged from the channel entrance each year. In one year's time, without annual dredging, the Santa Barbara Harbor would be obstructed with sand and closed to navigation.

Costs of dredging the Santa Barbara Channel under the authority of the U.S. Army Corps of Engineers was $370,000 in 1984, $360,000 in 1985, $450,000 in 1986, $580,000 in 1987. These costs were based on a total contract over a three-year period and are calculated from the amount of yardage dredged plus mobilization costs of $100,000 each year. Appropriations for dredging the Santa Barbara Harbor during Fiscal 88-89 are $755,000. The President's budget for Fiscal 89-90, however, contains no requested appropriation for Santa Barbara Harbor dredging.

APPENDIX A-1



Unlike the numerous natural harbors on the East Coast, West Coast harbors are predominately man-made and spread out over longer coastlines. Closure of the Santa Barbara Harbor would leave the south coast fishermen with only one alternative - to travel further to active fishing grounds.

APPENDIX B

COMMERCIAL ACTIVITY

Commercial fishing is an important but threatened industry in Santa Barbara. Fifteen percent of the boats in the Santa Barbara Harbor are employed in the commercial fishing industry and a majority of transient berth use is by commercial fishing vessels. In the month of December, 1988, the Harbor served 77 individual transient fishing vessels. Over 55% of the transient boats visiting the Harbor are actively engaged in the commercial fishing industry.

Fish caught in Santa Barbara waters include sea urchins, shark, abalone, swordfish, prawns, rockfish, crab, seabass, sole, guitarfish, barracuda, thornyhead, sablefish, salmon, sheephead, bass, squid, albacore, bonito, lingcod, anchovies, mackerel, butterfish, croaker, shrimp, louvar, opah, scorpionfish, tuna, octopus, skate, sanddab, cabezon, whelk, flounder, turbot, hake, ray, whitefish, sardines, surfperch, opaleye, herring, and mullet. More than 10 million pounds of fish, including 6,500,000 pounds of sea urchins, were landed in Santa Barbara in 1987, worth a total of over $6.6 million dollars. The local sea urchin fleet accounts for over 65% of all sea urchins landed in California and Santa Barbara Harbor has the largest, single-port, sea urchin operation worldwide.

Ten sea urchin processing plants located in the adjacent Ventura and Los Angeles counties, which employ 700 persons, obtain nearly all their product from the Santa Barbara area, giving regional economic benefit. The majority of sea urchin roe is processed and exported to Japan.

Other species of fish are processed in Santa Barbara. There are 100 jobs associated with the processing aspects of the industry, while over 400 persons are employed as crew members on fishing boats and are totally dependent on the Harbor. The fishing fleet would have to move or cease operation if the Harbor were to close. Relocation would double the fleet fuel consumption to a minimum of 1.5 million gallons per year, because they would be required to travel twice the distance to their fishing grounds. This added cost of fuel would be reflected in increased wholesale and retail fish prices, straining an already troubled domestic industry.

The Santa Barbara Harbor is a Class II Harbor, as total commercial tonnage exceeded 25,000 tons in each of the last three calendar years.

APPENDIX C

HARBOR AND MARINE DEPENDENT BUSINESSES

A walk along the breakwater in the Santa Barbara Harbor discovers seafood restaurants, a fresh fish market, chandleries, a sailmaker's shop, dive gear and rental shops, watersports sales, service and rental, yacht sales brokers, offshore oil support businesses, salvage businesses, fire boats, a 30,000 square-foot boatyard, a drydock, a tackle and bait shop, small markets, a marine surveyor, a mail center, marine maintenance services, marine electronics sales and service, an offshore tanker service, the largest sailing school in California, sailing clubs, boat rentals and charters, harbor cruises, the Yacht Club, whale watching, dinner cruises, dive boats, resortwear and sportswear shops, marine equipment and supply outlet, the University of California Sailing

Facility, the Marine Mammal Center, the U.S. Coast Guard and the U.S. Coast Guard Auxiliary, the U.S. Navy, and a fuel dock. There are 1,000 slips in the Harbor, 180 of which are home to the liveaboard population. There are 150 commercial fishing boats who harvest the sea life in the Santa Barbara channel.

These enterprises provide jobs for approximately 1,500 Santa Barbara residents and another 500 seasonal employees during the summer months. All the establishments in the Harbor, which generate approximately thirteen million per year in gross sales, are totally dependent on the continued, year-round operation of the Santa Barbara Harbor.

APPENDIX D

PROPERTY INVESTMENT

The unique geographical feature which gives Santa Barbara its famous Mediterranean-like climate is the east-west traverse of the Pacific coastline. Nowhere else in North America does the west coast run east and west for nearly fifty miles as it does between Gaviota to the north, and Rincon, to the south. This same geography causes the sand to continually flow along the coastal beaches in a west to east littoral drift. The sand settles out and clogs the Harbor entrance. Meanwhile, deprived of nourishment, easterly beaches are eroded as sand is carried off. Dredging not only maintains a navigable Harbor channel year-round, but, in the dredging process, replenishes the easterly beaches with the sand dredged from the Santa Barbara Harbor. Replacing one square foot of beach requires five to ten cubic yards of dredged sand. Without an annual resupply of sand to these beaches, within a year there would be severe erosion, coastal property would be threatened, economies of coastal cities would be impaired and estimated property damage, including the lost revenue from the drop in tourism, would run into the tens of millions.

The current value of boats berthed in the Santa Barbara Harbor is $40.3 million according to the Santa Barbara County Tax Assessor. If the Harbor was closed to navigation, these boats would be trapped in the Harbor, would have to be moved to other Harbors, or would be forced to anchor in the unprotected areas outside the Harbor. Due to the insufficient supply of berths in Southern California, it is possible that boats would cease being assets and, instead, become liabilities, causing values to drop by 50% or more.

The City of Santa Barbara has constructed marinas and piers to serve boats. The current value of the marinas is in excess of 8 million dollars. This value would be lost if the Harbor were to close. Stearns Wharf has been the object of 4 million dollars in structural renovation and improvements. The Wharf would continue to operate, although, with decreased attractiveness at the onset. In time, however shoaling would modify the surf line so that winter storms would threaten the structural integrity of the Wharf.

In hope of finding a permanent solution to the continued shoaling of the Santa Barbara Harbor, the City of Santa Barbara entered into a contract with the U.S. Army Corps of Engineers for a study to determine more effective methods to maintain the Harbor. The total cost of this study is approximately $400,000, and is cost-shared on a 50-50 basis between the City of Santa Barbara and the Federal Government. Completion of this study is expected in about two years.

Until such time as a permanent solution to the channel shoaling is found, entrance channel dredging is vital to the Santa Barbara Harbor.

APPENDIX E

TOURISM

5.5 million tourists visit Santa Barbara each year, according to a 1988 University of California Economics Group Forecast Survey. This survey, surveys by the Santa Barbara Chamber of Commerce, and the Santa Barbara Conference and Visitors' Bureau show that twenty-one percent, or more than one million tourists, specifically visit Santa Barbara in order to enjoy the ocean and Harbor area. They are responsible for 55.1 million tourist dollars spent in Santa Barbara each year. 13.1 million dollars are spent by tourists solely in the Harbor area, on food and retail sales, and on whale watching, sport fishing, boat charters and other recreational, water-related activities. Harbor closure would eliminate the tourist dollars generated there, would seriously decrease local and state tax revenues derived from the tourist industry, and would virtually destroy local businesses dependent upon the tourist industry, all of which would devastate the economy of the City of Santa Barbara.

APPENDIX F

OTHER IMPACTS

Two missions supported by the Harbor are marine safety and environmental protection. The Coast Guard cutter berthed in the Harbor has an area of responsibility for search and rescue and law enforcement thousands of square miles from the Santa Barbara coastline to the Channel Islands. Closure of the Harbor would necessitate moving the cutter to another location which would double its response time to marine emergencies often involving the preservation of life in the Santa Barbara and Point Conception areas.

An oil containment vessel is moored in the Harbor to provide quick response to oil spills. Moving this vessel to a new location would double its response time to an oil spill emergency in the Santa Barbara Channel. Substantially increased ecological damage will occur if containment and cleanup efforts are delayed from two to four hours.

Santa Barbara is also the home port of a fire fighting vessel committed to offshore oil-related fire suppression. A longer response time to a fire emergency would seriously hamper their mission and put lives and property at greater risk.

The Navy defense research vessel moored in the Harbor has been conducting national defense research in the Santa Barbara Channel for the past twenty-five years. Harbor closure would necessitate relocating the vessel further from its research area at Santa Cruz Island and technical support in Santa Barbara.

Other marine construction and service vessels presently berthed in the Harbor would similarly have to relocate and be further from the area they serve.

Santa Barbara Harbor provides refuge to small craft in transit between Southern California and Northern California. Because of its geographical location between Ventura and Port San Luis, Santa Barbara is in a crucial location to provide shelter and safe berths to transient vessels of all sizes in storms.

A Harbor closure would impact a large population of boaters who bring their vessels to the Harbor on trailers and launch them for pleasure boating, sport fishing and commercial fishing. There are approximately 20,000 trailer boat launchings each year. Closure of the Harbor would force these boaters to trailer their boats to lakes or other harbors. For many, increased fuel costs would be incurred. Many boaters would be denied the recreational opportunities of the Santa Barbara area.

APPENDIX G

SUMMARY OF ECONOMIC AND EMPLOYMENT IMPACTS

I.	COMMERCIAL FISHING		
	Total Loss of Income for Fish Landed Locally		$ 6,600,000
II.	HARBOR & MARINE BUSINESSES DEPENDENT ON FISHING		
	Fuel Dock	$1,190,000	
	Chandleries, Dive Shops, etc.	775,000	
			1,965,000
III.	OTHER HARBOR & MARINE DEPENDENT BUSINESSES		
	Fuel Dock	$ 210,000	
	Sportfishing	1,600,000	
	Chandleries, Dive Shops, etc.	2,325,000	
	Yacht Brokerages	3,400,000	
	Other Marine Businesses	3,400,000	
			11,135,000
IV.	TOURISM		
	Loss of Tourist Dollars in Santa Barbara		42,000,000
V.	PROPERTY/INVESTMENTS		
	-Property Damage Due to Beach Erosion	$15,000,000	
	-Boat Value - 50% of Assesed Value of $40.3 million	20,150,000	
	-Land Improvements & Personal Property	25,000,000	
	-City Marinas	8,000,000	
	Total Investment Loss		68,150,000
TOTAL LOSS OF INCOME AND INVESTMENTS			$123,250,000

EMPLOYMENT

I.	EMPLOYMENT IN COMMERCIAL FISHING INDUSTRY		
	Crews employed on fishing vessels	400 jobs	
	Fish Processing - Local	100 jobs	
	Fish Processing - Ventura/Los Angeles	800 jobs	
II.	EMPLOYMENT IN MARINE-ORIENTED BUSINESSES		
	Permanent employment	1,500 jobs	
	Seasonal employment	500 jobs	
TOTAL LOSS OF JOBS			3,300

OAKLAND HARBOR, CA

STATEMENT OF GERALD POPE, DIRECTOR, TRADE RELATIONS, PORT OF OAKLAND, CA

PREPARED STATEMENT

Mr. LANGNER. We have Gerald Pope, director of trade relations, Port of Oakland.

Mr. POPE. Mr. Chairman, members of the committee, I have a written statement that I would like to have submitted for the record.

And I want to conclude my remarks by simply thanking you and the members of the committee for past appropriations that have been made for the Port of Oakland.

Thank you very much.

[The statement follows:]

STATEMENT OF GERALD POPE

I want to thank you for the opportunity of submitting written testimony in support of appropriations that are under consideration by the Senate Subcommittee on Energy and Water Development. These appropriations as recommended in the President's budget provide $3.5 million for continuing construction in the Oakland Inner and Outer Harbor channels and also provide $1.73 million for annual operation and maintenance related to Oakland harbor channels. We particularly appreciate past actions that have been taken by you and the Senate committee with respect to ongoing appropriations that have now brought us to the point where actual construction of the Oakland channel deepening can commence.

The Oakland Inner and Outer Harbor channel improvements are a federally authorized project undertaken by the U.S. Army Corps of Engineers. The project was authorized for construction by the Water Resources Development Act of 1986, 99th Congress, Second Session, as a part of Public Law 99-662.

The project will deepen both channels to -42 feet below mean lower low water (MLLW) and provides additional navigational improvements. Approximately 7 million cubic yards of material must be dredged to provide the necessary channel improvements.

The Corps estimates the benefits of the project to the economy of the United States will be approximately $6.5 million annually. Benefits of the project are derived from:

A. The use of larger vessels with lower operation cost and lower fuel consumption per ton of cargo carried.

B. Elimination or reduction of tidal delays.

C. Improvement in navigation vessel safety and reduction in possibility of collisions or groundings.

The Port of Oakland as the local cooperating agency for the channel improvements is fully committed to meet its financial obligations as required under the Water Resources Act of 1986 with the balance of the project cost to be funded from federal appropriations.

In order to satisfy the requirements of our shipping lines, a decision was made to accelerate construction of the first phase of the Inner Harbor part of the project. On the 28th of April, 1988, the Port of Oakland entered into an agreement with the Secretary of the Army under Section 215 of Public Law 90-483 (Section 215, Agreements) to receive credit towards reimbursement obligations for the cost of work accomplished by the Port in deepening the Inner Harbor channel to -38 feet MLLW and providing for an 1,100 foot ship turning circle. Approximately 500,000 cubic yards of material was planned to be dredged in this first phase. Construction was started in May of 1988, but was soon stopped by a State court order which prevented disposal of the material at a designated ocean site. The Port now has a plan for upland disposal of approximately 440,000 cubic yards of this material to reinforce levees in the Sacramento-San Joaquin Delta. We expect to be under construction on this phase of the project by early July, 1989.

The Corps of Engineers is also proceeding with further study of sites for disposal of dredged material from the final phases of construction of the project. The current schedule calls for the Oakland channel project as described in its authorization to be completed by July, 1993.

The appropriations under consideration today will permit the Corps of Engineers to complete necessary studies concerning the project. These studies will include investigations into a suitable disposal site, or sites, to receive 6.5 million cubic yards of dredge material and will also update other necessary Corps, engineering and economic studies and environmental studies leading to preparation of a Supplemental EIS for the project, prior to the commencement of construction.

As I have earlier stated, we appreciate the cooperation of this committee and urge your approval of the appropriations requests as submitted.

PREPARED STATEMENTS

STATEMENT OF JOHN WOLTER, COOPERATIVE PROJECTS ENGINEER, NEWPORT BEACH, CA

Mr. LANGNER. John Wolter, cooperative projects engineer, city of Newport Beach.

Mr. WOLTER. Thank you.

Senator Reid, it is my pleasure to represent our city of Newport Beach before your committee here.

I would like to take this opportunity to mention that we have submitted a written statement that we would like read into the record and just briefly note that the city is in support of the coast of California storm and tidal waves study being expanded to include Orange and LA area. We are greatly concerned with the Corps proposal to drop maintenance responsibilities. We would like to consider that and we are very much in favor of an early construction start on the Santa Ana River project. Thank you.

[The statement follows:]

STATEMENT OF JOHN WOLTER

Mr. Chairman and Members of the Committee:

My name is John Wolter and it is indeed an honor to represent the City of Newport Beach before your committee. The City is in support of the President's fiscal year 1990 budget which proposes funding for several Corps of Engineers' studies and projects which affect the City of Newport Beach. In particular, the City urges your support for funding of the Santa Ana River Mainstem Project which enters the Pacific Ocean adjacent to the City. The City strongly supports the earliest possible construction start for the project and implementation of the associated marsh restoration work at the mouth of the river.

The City also supports two other Corps projects with funding in the President's proposed fiscal year 1990 budget. The Coast of California Storm and Tidal Waves Study will examine the coast of California. The study will provide valuable coastal information and coordination which will enable a more rational management and design of coastal facilities and sand nourishment programs by Federal, State and local agencies. The President's proposed budget for fiscal year 1990 only provides funds to complete the current study in the San Diego region. The City, in conjunction with CMANC, and other local agencies in Los Angeles and Orange Counties request that an additional $500,000 be budgeted to provide for the Federal share of funds necessary to expand the study to the Los Angeles-Orange County region. The second project, Surfside-Sunset and Newport Beach, is a Federal, State and local agency cooperative project to complete beach nourishment. The City supports the President's proposed budget.

In addition, the City wishes to go on record in opposition to the Department of the Army's proposal to eliminate the historic federal responsibility for operation and maintenance costs associated with low use commercial and recreational navigation projects. The Corps of Engineers has operated and maintained the Newport Harbor Jettys and main channels since the 1930's. To learn that the Department of the Army has formulated a new policy which eliminates their responsibility in Newport Harbor without any contact or input from the local agencies is unconscionable. We appreciate and share the need to pursue efforts to reduce the federal deficit. It is our position that priorities need to be established and evaluated as part of the budgetary process each year. It is not appropriate to simply establish arbitrary policies at an administrative level which eliminate Federal responsibilities established when the Congress authorized the Newport Harbor project 50 years ago.

RANCHO PALOS VERDES, CA

STATEMENT OF CHARLES ABBOTT, RANCHO PALOS VERDES, CA

Mr. LANGNER. We have with us now, Charles Abbott, city of Rancho Palos Verdes.

Mr. ABBOTT. Thank you.

Mr. Chairman, the city wishes to express its appreciation to this committee for funding in last year's bill for investigation of the shoreline erosion that caused the largest landslide in the country.

We now respectfully ask for another $90,000 to complete the reconnaissance study within the coastline stabilization jurisdiction of the secretary. And after spending $7 million, local funds are exhausted, but the public safety and property protection remain.

Mr. LANGNER. From just north of the Golden Gate the beautiful city of San Rafael, its director of public works, Dave Bernardi.

San Rafael, CA, Flood Control Project

STATEMENT OF DAVE BERNARDI, DIRECTOR, PUBLIC WORKS, SAN RAFAEL, CA

Mr. Bernardi. Mr. Chairman, two quick points.

I would like to first thank you for your continued support for the San Rafael flood control project We are at the approximate completion of the feasibility stage. We are willing to continue with our part of the bargain. And we look forward to working with you for the successful completion of the project.

The second point, is that we also are affected by the operations and maintenance budget reduction that is being proposed by the administration. For us it means approximately 200 individuals in marine-related industry that will be out of work and we would request that you consider this.

Thank you.

Mr. Langner. Wayne Clark, public relations counsel, speaking on behalf of the California Marine Parks and Harbors Association.

Dredging of Small Ports and Harbors

STATEMENT OF WAYNE CLARK, PUBLIC RELATIONS COUNSEL, CALIFORNIA MARINE PARKS AND HARBORS ASSOCIATION

PREPARED STATEMENT

Mr. Clark. Mr. Chairman, Senator Wilson, I simply want to reiterate the concern of the small craft harbors of the State of California over the proposed policy to remove public Federal support for operation and maintenance of these essential small craft harbors.

Thank you very much.

[The statement follows:]

STATEMENT OF WAYNE A. CLARK

The California Marine Parks and Harbors Assn. (CMPHA) membership is comprised of coastal public agencies, marine corporate entities, commercial harbor and port users and operators and recreational boaters. By charter, CMPHA is active in promotion and support of small craft boating facilities, and vessel and facility safety. Our association is a participating member of the California Marine Affairs and Navigation Conference and our President Emeritus sits as chair of the C-MANC Small Craft Committee. We are grateful to the Committee and to C-MANC for allowing us to make this brief statement.

Our members were greatly distressed to learn of the proposed policy by the U.S. Army Corps of Engineers that would eliminate federal Operations and Maintenance funding beginning in fiscal year 1990 for small harbor projects with less than 25,000 tons annually of commercial cargo. The purpose of this unexpected action is no doubt to impose on local entities the full responsibility for operation and maintenance. In most cases, the local entities are partners with the federal government and already share in the cost of O&M. Although the affected harbors are all small in terms of their contribution to the statistics of waterborne commerce, they are very large in relation to the socio-economic well-being of the communities they serve. Considering the long-standing commitment of the federal government to these harbors, we do not understand how it can now propose to abandon them and the substantial investment of federal and local dollars they represent.

We understand that the Secretary of the Army is seeking adjustment to the proposed policy that would eliminate virtually all O&M funding from small craft harbors. However, we felt it essential to make known to this Committee our opposition to any policy change that would eliminate federal responsibility. We certainly understand the need to meet federal deficit reduction goals, but we do not believe the commerce criteria is sufficient, as it fails to take into consideration other important factors.

Our position is that funding of authorized federal navigation projects must continue while the opportunities for federal budget reduction are explored and the socio-economic and environmental impacts of the budget reduction measures are properly evaluated. To the extent that local entities capable of assuming a greater responsibility for O&M costs can be found, and an implementation plan for an orderly transfer of that responsibility adopted, CMPHA will lend its support to the process.

The primary concern of CMPHA is to prevent the loss of the substantial benefits provided by small harbor projects to boaters and non-boaters alike, that would result from an ill-advised attempt to reduce the federal budget deficit. The proposal to use commercial cargo tonnage as the sole determinant for project eligibility fails to recognize the many other important benefits provided by these projects, many of which support the mission of federal agencies other than the Corps of Engineers.

The typical small harbor on the Coast of California provides support for: Harbor of Refuge along a sometimes hostile coast; Search and Rescue (U.S. Coast Guard); Fisheries Patrol (U.S. Coast Guard); Drug Interdiction (U.S. Coast Guard); Fisheries

Research (U.S. National Marine Fisheries Service); Commercial Fishing; Sport Fishing; Recreational Boating; Continental Shelf Resources (U.S.Department of Interior); Economic Development (U.S. Economic Development Administration); Boat Building and Repair; and Tourism.

The maintenance of these projects also affects important water quality and related environmental concerns in the small harbors along the coast, as well as coastal public access for both the boating and non-boating public. Any proposal that would result in the abandonment of a small harbor project should receive careful scrutiny, including a complete environmental assessments prior to implementation.

Again, Mr. Chairman, thank you for the opportunity to make known our concerns.

CALIFORNIA NAVIGATION PROJECTS
WITH LESS THAN TWENTY-FIVE THOUSAND TONS OF COMMERCE
(Dollars in Thousands)

PROJECT NAME	FY 90
CHANNEL ISLANDS HARBOR	3,604
DANA POINT HARBOR	143
MORRO BAY HARBOR	2,126
MOSS LANDING	607
NOYO RIVER	1,255
OCEANSIDE HARBOR	775
OCEANSIDE SAND BYPASS	1,200
SAN LEANDRO MARINA	859
SANTA BARBARA HARBOR	965
SUISUN CHANNEL	813
MARINA DEL REY	135
BODEGA BAY	
CRESCENT CITY HARBOR	
HALF MOON BAY	
MONTEREY HARBOR	
NEWPORT BAY HARBOR	
PORT SAN LUIS	
REDONDO BEACH-KING HARBOR	
SAN DIEGO RIVER-MISSION BAY	
SAN RAFAEL CREEK	
SANTA CRUZ HARBOR	

TABLE 2
CALIFORNIA BOATING INDUSTRY
GROSS RECEIPTS, PAYROLL AND EMPLOYMENT BY TYPE OF BUSINESS, 1986

BUSINESS TYPE	SOURCE	- FOR AN AVERAGE BUSINESS - GROSS RECEIPTS ($000)	EMPLOYMENT (NUMBER)	PAYROLL ($000)	TOTAL NUMBER OF CALIFORNIA BUSINESSES	--- CALIFORNIA TOTAL --- GROSS RECEIPTS ($000)	EMPLOYMENT (NUMBER)	PAYROLL ($000)
MANUFACTURING								
BOAT MANUFACTURING	(2)	1,004	15	246	238	239,063	3,594	58,480
TRAILER & EQPMNT MFG	(2)	629	7	127	146	91,808	1,053	18,502
SAILMAKING	(3)	405	9	123	67	27,135	619	8,232
---SUBTOTAL					451	358,006	5,266	85,214
RETAIL								
BOAT DEALERS	(1)	593	4	67	834	494,887	3,399	55,677
BOAT EQUIPMENT DEALERS	(1)	284	4	36	838	238,092	3,258	30,468
CANVAS & BOAT TOP	(1)	211	5	64	145	30,529	697	9,261
MISC. BOATING SUPPLIES	(1)	218	4	34	458	100,010	2,016	15,416
---SUBTOTAL					2,275	863,518	9,370	110,823
SERVICES								
BOAT AND ENGINE REPAIR	(5)	378	6	93	431	162,999	2,451	39,873
FUEL DEALERS	(1)	734	4	36	32	23,483	126	1,155
SURVEYORS & CONSULTANTS	(2)	255	7	74	148	37,770	1,090	10,885
BOATING PUBLICATIONS	(3)	2,003	15	320	42	84,122	614	13,423
CLUBS & ASSOCIATIONS	(4)	78	2	24	219	17,082	498	5,343
OTHER BOATING SERVICES *	(3)	328	9	95	802	263,282	7,596	75,876
---SUBTOTAL					1,674	588,738	12,374	146,555
MARINAS	(4)	461	13	133	593	273,282	7,884	78,757
FISH PROCESSORS	(2)	12,392	117	1,316	42	520,474	4,932	55,285
TOTAL, ALL BUSINESSES					5,035	2,604,018	39,826	476,634

*OTHER BOATING SERVICES INCLUDE HAULING, LAUNCHING, CLEANING, STORAGE, CHARTERS, TRANSPORTATION & RENTAL.

SOURCE: (1) CALIFORNIA STATE BOARD OF EQUALIZATION, 1987
(2) CALIFORNIA FRANCHISE TAX BOARD, 1987
(3) U.S. CENSUS BUREAU (4,6,12)
(4) DORNBUSCH & COMPANY ESTIMATE
(5) JONES & STOKES, 1986

TABLE 4
CALIFORNIA BOATING INDUSTRY
STATE AND LOCAL TAXES PAID BY THE BOATING INDUSTRY AND BY RECREATIONAL BOATERS - 1986

		STATE AND LOCAL TAX REVENUES				
INDUSTRY TYPE	GROSS REVENUES	INCOME TAX	TRANSIENT LODGING TAX	SALES TAX	FUEL TAX	PROPERTY TAX
BOATING BUSINESSES						
BOAT MFG	$239,063,000	$709,000	$0	$0	$0	$550,000
TRAILER MFG	$3,144,000	$9,000	$0	$0	$0	$6,000
EQUIPMENT MFG	$88,664,000	$414,000	$0	$0	$0	$168,000
SAILMAKING	$27,135,000	$79,000	$0	$1,312,000	$0	$38,000
BOAT DEALERS	$494,887,000	$302,000	$0	$27,852,000	$0	$247,000
BOAT EQUIPMENT	$238,092,000	$345,000	$0	$11,514,000	$0	$357,000
CANVAS & BOAT TOP	$30,529,000	$89,000	$0	$1,476,000	$0	$43,000
MISC. BOAT SUPPLIES	$100,010,000	$145,000	$0	$4,836,000	$0	$230,000
BOAT REPAIR	$162,999,000	$380,000	$0	$3,775,000	$0	$375,000
FUEL DEALERS	$23,483,000	-- TAX REVENUES FROM FUEL SALES INCLUDED IN "BOAT FUEL," BELOW --				
SURVEYORS	$37,770,000	$117,000	$0	$0	$0	$136,000
PUBLICATIONS	$84,122,000	$267,000	$0	$0	$0	$109,000
CLUBS	$17,082,000	$24,000	$0	$0	$0	$132,000
OTHER SERVICES	$263,282,000	$308,000	$0	$10,344,000	$0	$2,027,000
MARINAS	$273,282,000	$457,000	$0	$0	$0	$1,653,000
FISH PROCESSORS	$520,474,000	$2,148,000	$0	$0	$0	$885,000
RECREATIONAL BOATER SPENDING						
BOAT FEES	$172,403,000	--TAX REVENUES FROM BOAT FEES INCLUDED IN "OTHER SERVICES," ABOVE--				
EQPMNT RENTAL	$42,718,000	$50,000	$0	$2,563,000	$0	$154,000
AUTO SERVICE	$268,680,000	$110,000	$0	$15,524,000	$25,973,000	$242,000
BOAT FUEL	$132,101,000	$54,000	$0	$7,633,000	$13,264,000	$119,000
RESTAURANTS	$189,297,000	$369,000	$0	$11,358,000	$0	$700,000
GROCERIES	$643,492,000	$656,000	$0	$0	$0	$837,000
HOTELS	$86,445,000	$240,000	$6,916,000	$0	$0	$1,063,000
PUBLIC TRANSPORT	$14,123,000	$0	$0	$0	$0	$0
OTHER GOODS	$57,588,000	$84,000	$0	$3,455,000	$0	$132,000
BERTH PROPERTY TAXES	$61,455,000 (1)	$0	$0	$0	$0	$615,000
BOAT PROPERTY TAXES	$2,531,901,000 (1)	$0	$0	$0	$0	$25,319,000
TOTALS		$7,356,000	$6,916,000	$101,642,000	$39,237,000	$36,137,000

SUMMARY OF ANNUAL TAX REVENUES GENERATED BY RECREATIONAL BOATING IN CALIFORNIA

CALIFORNIA INCOME TAX REVENUES	$7,356,000
TRANSIENT LODGING TAX REVENUES	$6,916,000
SALES TAX REVENUES	$101,642,000
FUEL EXCISE TAX REVENUES	$39,237,000
PROPERTY TAX REVENUES	$36,137,000
TOTAL MAJOR STATE AND LOCAL TAXES	$191,288,000

(1) ASSESSED VALUES

SOURCE: DORNBUSCH, 1987; CALIFORNIA BOARD OF EQUALIZATION, 1987; CALIFORNIA FRANCHISE TAX BOARD, 1987; U.S. CENSUS BUREAU (2,4,5,6,7,9,11); INTERNAL REVENUE SERVICE, 1986; U.S. ENERGY INFORMATION ADMINISTRATION, 1987.

TABLE 5

CALIFORNIA BOATING INDUSTRY

TOTAL DIRECT AND INDIRECT IMPACT ON THE CALIFORNIA ECONOMY, 1986

(DOLLAR AMOUNTS IN THOUSANDS)

DIRECT IMPACT CATEGORY	TOTAL AMOUNT SPENT	LESS DIRECT SPENDING TO OUT-OF-AREA	NET LOCAL DIRECT IMPACTS	----GROSS OUTPUT---- WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	-----EARNINGS------ WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	----EMPLOYMENT----- WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS
BOATING BUSINESSES									
BOAT MFG	$239,063	$0	$239,063	2.349	$561,463	0.759	$181,544	31.4	7,507
TRAILER MFG	$3,144	$0	$3,144	2.349	$7,384	0.759	$2,388	31.4	99
EQUIPMENT MFG	$85,664	$0	$85,664	2.115	$187,542	0.590	$52,303	32.5	2,882
SAILMAKING	$27,135	$0	$27,135	2.115	$57,396	0.590	$16,007	32.5	882
BOAT DEALERS	$496,887	$325,141	$169,746	2.112	$358,527	0.803	$136,261	50.0	8,479
BOAT EQUIPMENT	$238,092	$156,426	$81,666	2.112	$172,489	0.803	$65,556	50.0	4,079
CANVAS & BOAT TOP	$30,529	$14,040	$16,489	2.113	$34,845	0.725	$11,955	43.6	719
MISC. BOAT SUPPLY	$100,010	$45,995	$54,015	2.113	$114,148	0.725	$39,165	43.6	2,354
BOAT REPAIR	$162,999	$0	$162,999	2.349	$382,819	0.759	$123,781	31.4	5,118
SURVEYORS & CONSL	$37,770	$0	$37,770	2.336	$88,238	0.695	$26,254	43.1	1,628
PUBLICATIONS	$84,122	$0	$84,122	2.115	$177,935	0.590	$49,624	32.5	2,734
CLUBS	$17,082	$0	$17,082	2.336	$39,907	0.695	$11,874	43.1	736
OTHER SERVICES	$263,282	$0	$263,282	2.336	$615,079	0.695	$183,007	43.1	11,347
MARINAS	$273,282	$0	$273,282	2.336	$638,441	0.695	$189,958	43.1	11,778
FISH PROCESSORS	$520,474	$0	$520,474	2.191	$1,140,306	0.480	$249,775	24.2	12,595
SUBTOTAL	$2,580,535	$541,602	$2,038,933		$4,576,521		$1,339,453		72,937
RECREATIONAL BOATER SPENDING									
EQPMNT RENTAL	$42,718	$0	$42,718	2.336	$99,798	0.695	$29,693	43.1	1,841
AUTO SERVICE	$268,680	$0	$268,680	1.911	$513,507	0.431	$115,890	23.7	6,373
BOAT FUEL	$132,101	$0	$132,101	1.911	$252,474	0.431	$56,979	23.7	3,133
RESTAURANTS	$189,297	$43,105	$146,192	1.707	$249,538	0.475	$69,493	28.1	4,106
GROCERIES	$643,492	$295,942	$347,550	2.141	$744,063	0.685	$238,045	40.6	14,094
HOTELS	$86,445	$0	$86,445	2.336	$201,953	0.695	$60,088	43.1	3,726
TRANSPORT	$14,123	$0	$14,123	1.953	$27,586	0.283	$3,998	11.7	165
OTHER GOODS	$57,588	$26,485	$31,103	2.113	$65,729	0.725	$22,552	43.6	1,356
SUBTOTAL	$1,434,444	$365,532	$1,068,912		$2,154,648		$596,738		34,795
PLUS DIRECT IMPACTS	INCLUDED	INCLUDED	INCLUDED		INCLUDED		$76,590		10,996
TOTALS	$4,014,979	$907,134	$3,107,845		$6,731,169		$1,936,191		118,729

SOURCES: U.S. BUREAU OF ECONOMIC ANALYSIS, 1984; U.S. BUREAU OF ECONOMIC ANALYSIS, 1977; DORNBUSCH & COMPANY.

STATEMENT OF FRANK BOERGER, CONSULTING ENGINEER, GOLDEN GATE PORTS ASSOCIATION

PREPARED STATEMENT

Mr. LANGNER. Often appearing here in the past and here again is Frank Boerger, consulting engineer, representing the Golden Gate Ports Association.

Mr. BOERGER. Mr. Chairman, thank you for the opportunity to appear here today.

I have submitted written testimony for the record and also included a brochure that gives you an idea of what the six ports in the Golden Gate Ports Association amount to, representing a major part of northern California.

Our testimony this year is not asking for any extra money over and above that which is in the President's budget and we urge that you include that in your considerations.

[The statement follows:]

STATEMENT OF FRANK BOERGER

My name is Frank Boerger. Today I am representing the Golden Gate Ports Association. This association is a cooperative venture by the six public ports that are served through the Golden Gate, namely Oakland, Redwood City, Richmond, Sacramento, San Francisco and Stockton. The ports of this association furnish a major gateway to the United States from the countries around the Pacific Rim. It contributes annually about $3 billion in sales actions and $1.7 billion in regional gross product. The region is the fourth largest consumer area in the United States. About 45,000 jobs with payrolls of $1.2 billion are attributed to the maritime agencies served in the region of the Golden Gate. The total economic benefits that accrue to the area, based on this maritime industry, are more than $10 billion annually and the support facilities include a total of about 79,000 jobs.

The importance of maintaining adequate channels to these port facilities is obvious. This Committee is to be congratulated for its wisdom through the years of providing the means of deepening, widening and maintaining the federal channels that support this port system. Of course these channels also provide access to many of the industrial facilities that are maintained in the Bay-Delta area that do not belong to the ports. These important industrial facilities also contribute a great deal to the economic well being of the northern California area as well as to the entire nation. An important aspect of the port system is that it provides a major conduit for exports from the United States abroad therefore affecting the balance of trade to help reduce the trade deficit.

Another extremely important aspect of maintaining these channels to adequate depth is their use to support facilities belonging to our Department of Defense. The channels must support the Navy installations that require modernization in order to support newer models of ships. At the same time the industrial facilities that support the defense industry such as dry docks also need modernization in order to continue to serve the needs of the nation.

This year the Golden Gate Ports Association is pleased to support the President's budget concerning facilities that serve our ports and is requesting no additional funds recognizing the current budget situation for the nation. We are pleased to have this opportunity to testify.

PORT OF STOCKTON, CA

STATEMENT OF ALEXANDER KRYGSMAN, PRESIDENT AND DIRECTOR, PORT OF STOCKTON, CA

PREPARED STATEMENT

Mr. BOERGER. The Golden Gate Ports Association has a president. He is here today also, his name is Alexander Krygsman. And he is also the director of the Port of Stockton.

Mr. Krygsman.

Mr. KRYGSMAN. Mr. Chairman, I wish to introduce three of my commission members who have come with me to Washington to testify before you, or appear before you: Mr. Frank Saunders, the chairman of the commission; Dr. Joseph Blanchard, who is a commissioner; and Mr. Phil Wallace, who is also a commissioner.

In the interest of time, I have introduced my statement and ask that it be entered into the record. I want to thank you for past support of our project. As has become a tradition, I have brought you a colorful brochure and a picture is a thousand words, and you have 75 pages of pictures in here, so I think that will convey our message adequately.

Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF ALEXANDER KRYGSMAN

Mr. Chairman, I am Alexander Krygsman, Port Director of Stockton, Stockton, California.

The Port of Stockton Deepwater Channel Deepening Project is an authorized project under construction.

The Port of Stockton is primarily a bulk port that serves industry and agriculture in the San Joaquin Valley in California and the bulk imports and exports of the Western States, including the coal areas of these States.

The Port of Stockton recognized as far back as 1952 that deeper channels would be needed for the movements of bulk cargoes and requested the Corps of Engineers to deepen the channel in 1952. Coal, grain, fertilizers and many other bulk materials require deeper channels to serve the larger bulk carriers.

The Nation needs ports that can handle larger more economical and more fuel efficient vessels close to the production areas, both agricultural and industrial to conserve energy.

The Port of Stockton is such a port. Its channel has now been deepened and only associated work such as levee protection and completion of wildlife areas still needs to be completed, and this work deserves continued funding to completion. We urge you to appropriate the same amount as contained in the proposed President's budget.

I want to thank the committee for its past support that made it possible to do the dredging. Vessels are now utilizing the extra depth and there has been great interest by shippers to increase drafts and tonnages on the vessels as was anticipated.

PORT OF LONG BEACH, CA

STATEMENT OF VERN HALL, CHIEF HARBOR ENGINEER, PORT OF LOS ANGELES, CALIFORNIA

PREPARED STATEMENT

Mr. LANGNER. Representing one of those super ports remarked upon by Congressman Anderson is Vern Hall, chief harbor engineer of the Port of Los Angeles.

Mr. HALL. Thank you.

Mr. Chairman, we also have a prepared statement for the record. And in essence it boils down to strongly supporting the testimony you heard just a few minutes ago from Congressman Anderson.

I would like to take a moment to introduce our new director of development, Dwayne Lee, and our director of construction management, and Bruce Seaton, who are in the audience.

Thank you for your time.

[The statement follows:]

STATEMENT OF VERN HALL

My testimony today, on behalf of the Port of Los Angeles, will make the case for continued federal fiscal support of the implementation of a major navigation improvement and port development program for the San Pedro Bay. This program, now known as the 2020 Master Plan, was jointly undertaken by the Ports of Los Angeles and Long Beach and the U.S. Army Corps of Engineers as first authorized by Congressional resolution in the 90th Congress. This farsighted action accurately anticipated the phenomenal growth of the San Pedro Bay ports which are today ranked as the second largest containerized port complex in the world.

The 2020 Plan outlines the improvements and expansion that will be required for the ports to keep pace with the projected increase in world commerce into the 21st century. Implementation of the initial phase of the 2020 Plan is authorized in Section 201(b) of the Omnibus Water Resources Development Act of 1986 (P.L. 99-662) and further sanctioned in Section 104 of the Water Resources Development Act of 1988 (P.L. 100-371). However, early construction is dependent on the continued federal support of two essential and on-going studies.

The first study, referred to as the Los Angeles-Long Beach Harbor Model Study, is a tidal and harbor resonance study of the San Pedro Bay being conducted by the Corps of Engineers at its Waterways Experiment Station in Vicksburg, Mississippi. We are currently in the third year of this five-year study effort. The second study is the Feasibility Study for Phase I of the 2020 Plan and is currently being conducted by the Los Angeles District of the Corps of Engineers.

The Harbor Model Study is a long-term harbor response, ship motion and tidal circulation study, designed to collect data for the evaluation of the ports' responses to the environmental changes in the harbors

created by the channel deepening and land re-configurations as called for in the 2020 Plan project. Changes in tidal circulation and harbor channel flushing must also be examined to determine the possible effects that channel deepening and landfill expansion will have on water quality in both ports and the surrounding vicinity.

A portion of the Harbor Model Study funds that have already been appropriated are being expended on the physical model itself. The upgrade of the model is necessary to insure that the data in the study will reflect the state-of-the-art numerical and physical modeling techniques and will produce the most accurate study data possible.

As regards next year's funding for the Harbor Model Study, the Corps of Engineers' FY90 budget request includes $930,000 in operation and maintenance (O&M) funds for its continuation. This proposed amount will be sufficient to keep the study on schedule as outlined in the three-party Memorandum of Understanding (MOU) that was entered into on June 26, 1987 by the Ports of Los Angeles and Long Beach and the Corps of Engineers. The requested amount is also consistent with the $895,000 that was appropriated in the FY89 Budget, which is expected to be fully expended this year.

The Feasibility Study, to be completed in FY89, needs no further appropriation. The results of this study will be reviewed by the Chief of Engineers in FY90 in keeping with the schedule set forth in the afore-mentioned MOU. The study evaluates and quantifies the national transportation cost savings of a channel deepening project which must also meet a strict engineering and environmental test before it can be approved.

We are confident that the study will be approved by the Chief of Engineers, and that we will soon begin the planning, engineering and

design (P,E & D) segment of Phase I in FY90, while the Harbor Model Study continues to provide essential design data and parameters. We, therefore, strongly urge that your Subcommittee include $1,500,000 for that purpose in your Appropriations Bill for FY90.

You are well aware, Mr. Chairman, that no federal construction funds can be requested for a project until the Chief's Report is completed pursuant to Section 201(b) of the Water Resources Development Act of 1986. Because the Chief's Report will be based, in part, on data derived from the on-going Harbor Model Study, it is important that there be no delay in that work. But furthermore, Mr. Chairman, we are concerned that any delay could jeopardize the ability of both ports to begin actual construction of their authorized projects within the five year "window" for construction as specified in the Water Resources Act of 1986.

In the spirit of partnership, as evidenced in the MOU and in the interest of our meeting the regional and national shipping demands that are outlined in the 2020 Plan, the Port of Los Angeles respectfully requests that your Subcommittee appropriate the full $930,000 that is contained in the Administration's FY90 Budget Request, and that you include an additional $1,500,000 for the commencement of the P,E & D segment of Phase I of the 2020 Plan.

The Ports of Los Angeles and Long Beach have long valued the vision of this Subcommittee in appropriating scarce federal resources to harbor and navigation projects such as ours. We view this commitment to the expansion of water-borne transportation as a demonstration by the federal government of its support for the nation-wide economic development in which the nation's port authorities play an important role.

It is no coincidence that the U.S. Customs revenue collections at the San Pedro Bay ports is the largest amount collected at any of the major U.S. ports. A total of $2.58 billion was collected in FY89, and this amount will certainly continue to grow in proportion to our ability to keep pace with the rapid increase in foreign trade that is projected for our region and the nation.

Thank you Mr. Chairman for allowing me to testify and to inform you of the progress we are making toward the goals that we have identified.

STATEMENT OF EVAN BRAUDE, COUNCILMAN, LONG BEACH, CA

Mr. LANGNER. We have now, Councilman Evan Braude, of the city of Long Beach.

Mr. BRAUDE. Mr. Chairman, Senator Wilson, I am Councilman Evan Anderson Braude. With me today is Dan Allen, our port's chief engineer; and the president of the Long Beach Harbor Commission, George Talin; and commission member David Hauser.

As was stated by Chairman Anderson, the Port of Long Beach and Los Angeles, in cooperation with the Corps of Engineers, is involved in that long-range 2020 master plan, which demonstrates the need for new navigation channels.

The Water Resources Development Act of 1986 authorizes construction of this master plan and it is, therefore, urged that the committee approve an appropriation of $1.5 million for fiscal year 1990 to initiate the 2020 plan engineering and design.

The Port of Long Beach has started the first phase of the 2020 plan with construction of its Pier J expansion project, which includes the dredging of the Long Beach main channel to at least a minus 76 feet depth.

And we also strongly support the U.S. Corps of Engineers' Waterways Experiment Station in Vicksburg, MS, and we would ask that the Congress respectfully appropriate $930,000 for the fiscal year 1990 to continue that modeling study.

PREPARED STATEMENT

Through the years the Port of Long Beach and the U.S. Army Corps of Engineers has worked closely in bringing into reality the 2020 plan. We feel that the projects enumerated in our statement and those enumerated by Chairman Anderson and the supporting documents that we have included are vital in the development of our Nation's water resources.

I thank this committee and you for your continued support.

[The statement follows:]

STATEMENT OF EVAN ANDERSON BRAUDE

The Ports of Long Beach and Los Angeles, in cooperation with the Corps of Engineers, have developed a long-range master plan, referred to as the 2020 Plan, which demonstrates the need for new navigation channels and additional landfill development. This document is a product of the Los Angeles-Long Beach Harbors Study for future channels and landfill development, which has been in process since 1964 by the U.S. Army Corps of Engineers. The Water Resources Development Act of 1986 authorizes construction of this master plan project upon completion of a favorable Chief's Report. The first step in this process is a feasibility report, which is nearing completion. The Ports and the Corps will complete the feasibility study in fiscal year 1989 and wish to initiate planning, engineering and design (PED) in fiscal year 1990, including physical and numerical model testing and other studies needed for the permitting process. It is, therefore, urged that the Committee approve an appropriation of $1,500,00 for fiscal year 1990 to initiate "2020" PED.

The Port of Long Beach has started the first phase of the 2020 Plan with construction of its Pier J expansion project which includes dredging the Long Beach Main Channel to at least -76' depth. This increment of dredging is being evaluated for Federal interest in the feasibility study because it permits deeper draft crude petroleum vessels to call at the Port of Long Beach. The Water Resources Development Act of 1988 authorized consideration of credit for any work constructed by the non-Federal interest that is associated with such project which is later recommended by the Chief of Engineers and approved by the Secretary. Therefore, if it is determined that the dredging of Long Beach Main Channel is part of the recommended Federal project, Congress is respectfully urged to credit the Port of Long Beach an amount equal to the Federal share of The Water Resources Development Act of 1976, Section 123, authorized the Chief of Engineers to operate and maintain the Los Angeles-Long Beach Harbor Hydraulic Model at the U.S. Army Corps of Engineers Waterways Experiment Station in Vicksburg, Mississippi as part of the Los Angeles and Long Beach Harbors Model Study. In the President's budget for fiscal year 1989, $895,000 was included and the funds have been appropriated to upgrade that model, including accumulation data on tidal circulation, wave energy, and ship motion in the San Pedro Bay area. This model study is essential to satisfy regulatory agency requirements and to plan and engineer the expansion of the port complex and associated navigation channels, as detailed in the Port's 2020 Plan. These modeling improvements provide for state of the art capabilities that can be used on many harbor complexes. The Corps of Engineers advises that this study must be consecutively funded for several more years if useful results are to be obtained. Therefore, Congress is respectfully requested to appropriate $930,000 for fiscal year 1990 to continue this modeling study.

The Port of Long Beach concurs with and supports the recommendation of the California Marine Affairs and Navigation Conference and the Long Beach City Council on federal funding for remedial maintenance dredging to remove accumulated flood-deposited silt in the mouth of Los Angeles River. These silt deposits create serious restrictions and hazards to commercial and recreational boating activity in, and adjacent to, the Long Beach Harbor District. In addition, the Port recommends that these silt deposits be removed, preferably on an annual basis, and at least on a biennial basis as a scheduled item of work. The dredged material could be deposited in an approved ocean disposal site. It is estimated that the annual rate of siltation is approximately 200,000 to 300,000 cubic yards and is influenced by operational decisions at the Corps of Engineers' Hansen Dam, located at the headwaters of the river. It is imperative in our operation that a more assured long-range remedy be maintained. House Document 843, 76th Congress, 3rd Session, delegated this maintenance responsibility to the Corps, but developments in the mouth of the river have rendered this document obsolete. It is recommended that the existing design evaluation be lowered to a depth of -30 feet MLLW and that a scheduled program be established to monitor water depths in the river to insure an operational depth of -20 feet MLLW. However, it is understood that the federal funding is substantially limited at this time. Therefore, it is requested that the design evaluation be maintained at a depth of -20 feet MLLW. These actions will allow the Corps to initial maintenance activities in a more timely and economically feasible manner before the channel becomes completely closed to navigation.

The City believes that this particular project, as well as an explicit annual maintenance dredging and landfill project, would provide such a long-range solution to the siltation problem from the Los Angeles River.

Last year this Committee appropriated $1,500,000 to accomplish this work. Language in the Fiscal Year 1990 Bill to ensure that this construction goes forward without delay is respectfully urged.

Attached hereto is Resolution No. HD-1444, adopted by the Board of Harbor Commissioners of the City of Long Beach on March 20, 1989, which contains data relating to the background of the Los Angeles-Long Beach Harbors Study, hydraulic modeling, and other related matters. The resolution stresses the need for federal assistance developing economic, technical and environmental background information essential to the design and permitting of Port facilities vital to regional and national interests.

Agencies benefiting from these projects in San Pedro Bay include, but are not limited to, the City of Long Beach, the Ports of Long Beach and Los Angeles, the County of Los Angeles, the State of California,

the United States Navy and Coast Guard, the United States Customs Service, and various state and federal environmental agencies.

Through the years, the Port of Long Beach and U.S. Army Corps of Engineers have worked closely in bringing into reality the 2020 Plan with completion of the Los Angeles-Long Beach Harbor feasibility study and enhancement of the model. We feel that these projects and the maintenance dredging of the Los Angeles River to assure a navigable waterway are vital projects in the development of our nation's water resources. We kindly ask that Congress continue to support these projects in fiscal year 1990 by appropriating the requested funds.

Thank you Mr. Chairman.

STATEMENT OF E.D. ALLEN, CHIEF HARBOR ENGINEER, PORT OF LONG BEACH

I am E. D. Allen, Chief Harbor Engineer for the Port of Long Beach, California. I have been authorized by the Board of Harbor Commissioners of the City of Long Beach to represent the Port of Long Beach in regard to appropriations for the Los Angeles-Long Beach Harbors Study, the Los Angeles and Long Beach Harbors Model Study programs and for remedial maintenance dredging in the mouth of the Los Angeles River.

The Ports of Long Beach and Los Angeles, in cooperation with the Corps of Engineers, have developed a long-range master plan, referred to as the 2020 Plan, which demonstrates the need for new navigation channels and additional landfill development. This document is a product of the Los Angeles-Long Beach Harbors Study for future channels and landfill development, which has been in process since 1964 by the U. S. Army Corps of Engineers. The Water Resources Development Act of 1986 authorizes construction of this master plan project upon completion of a favorable Chief's Report. The first step in this process is a feasibility report, which is nearing completion. The Ports and the Corps will complete the feasibility study in fiscal year 1989 and wish to initiate planning, engineering and design (PED) in fiscal year 1990, including physical and numerical model testing and other studies needed for the permitting process. It is, therefore, urged that the Committee approve an appropriation of $1,500,000 for fiscal year 1990 to initiate PED.

The Port of Long Beach has started the first phase of the 2020 Plan with construction of its Pier J expansion project, which includes dredging the Long Beach Main Channel to at least -76' depth. This increment of dredging is being evaluated for Federal interest in the feasibility study because it permits deeper draft crude petroleum vessels to call at the Port of Long Beach. The Water Resources Development Act of 1988 authorized consideration of credit for any work constructed by the non-Federal interest that is associated with such project which is later recommended by the Chief of Engineers and approved by the Secretary. Therefore, if it is determined that the dredging of Long Beach Main Channel is part of the recommended Federal project, Congress is respectfully urged to credit the Port of Long Beach an amount equal to

the Federal share of the cost for such work. The Federal share is estimated at $32,800,000.

The Water Resources Development Act of 1976, Section 123, authorized the Chief of Engineers to operate and maintain the Los Angeles-Long Beach Harbor Hydraulic Model at the U. S. Army Corps of Engineers Waterways Experiment Station in Vicksburg, Mississippi as part of the Los Angeles and Long Beach Harbors Model Study. In the President's budget for fiscal year 1989, $895,000 was included and the funds have been appropriated to upgrade that model, including accumulating data on tidal circulation, wave energy, and ship motion in the San Pedro Bay area. This model study is essential to satisfy regulatory agency requirements and to plan and engineer the expansion of the port complex and associated navigation channels, as detailed in the Port's 2020 Plan. These modeling improvements provide for state of the art capabilities that can be used on many harbor complexes. The Corps of Engineers advises that this study must be consecutively funded for several more years if useful results are to be obtained. Therefore, Congress is respectfully requested to appropriate $930,000 for fiscal year 1990 to continue this modeling study.

The Port of Long Beach concurs with and supports the recommendation of the California Marine Affairs and Navigation Conference and the Long Beach City Council on federal funding for remedial maintenance dredging to remove accumulated flood-deposited silt in the mouth of the Los Angeles River. These silt deposits create serious restrictions and hazards to commercial and recreational boating activity in and adjacent to the Long Beach Harbor District. In addition, the Port recommends that these silt deposits be removed, preferably on an annual basis, and at least on a biennial basis as a scheduled item of work. The dredged material could be deposited in an approved ocean disposal site. It is estimated that the annual rate of siltation is approximately 200,000 to 300,000 cubic yards and is influenced by operational decisions at the Corps of Engineers' Hansen Dam, located at the headwaters of the river. It is imperative in our operation that a more assured long-range remedy be found for the Los Angeles River mouth if navigational utility is to be maintained. House Document 843, 76th Congress, 3rd Session, delegated this maintenance responsibility to the Corps, but developments in the mouth of the river have rendered this document obsolete. It is recommended that the existing design evaluation be lowered to a depth of -30 feet MLLW and that a scheduled program be established to monitor water depths in the river to insure an operational depth of -20 feet MLLW. However, it is understood that the federal funding is substantially limited at this time. Therefore, it is requested that the design evaluation be maintained at a depth of -20 feet MLLW and that a scheduled program be established to monitor water depths in the river to insure an operational depth at -20 feet MLLW. These actions will allow the Corps to initiate maintenance activities in a more timely and economically feasible manner before the channel becomes completely closed to navigation.

The City believes that this particular project, as well as an explicit annual maintenance dredging and landfill project, would provide such a long-range solution to the siltation problem from the Los Angeles River.

From the Army Corps of Engineers' most recent survey data, approximately 890,000 cubic yards of material has shoaled the river area. An appropriation of $3,000,000 for construction would fund this most essential remedial project. After this year, a more moderate annual or biennial program could be instituted. Congress is therefore respectfully requested to appropriate this $3,000,000 for the fiscal year of 1990.

Attached hereto is Resolution No. HD-1444 , adopted by the Board of Harbor Commissioners of the City of Long Beach on March 20, 1989, which contains data relating to the background of the Los Angeles-Long Beach Harbors Study, hydraulic modeling, and other related matters. The resolution stresses the need for federal assistance in developing economic, technical and environmental background information essential to the design and permitting of Port facilities vital to regional and national interests.

Agencies benefiting from these projects in San Pedro Bay include, but are not limited to, the City of Long Beach, the Ports of Long Beach and Los Angeles, the County of Los Angeles, the State of California, the United States Navy and Coast Guard, the United States Customs Service, and various state and federal environmental agencies.

Through the years, the Port of Long Beach and the U. S. Army Corps of Engineers have worked closely in bringing into reality the 2020 Plan with the completion of the Los Angeles-Long Beach Harbor feasibility study and enhancement of the model. We feel that these projects and the maintenance dredging of the Los Angeles River to assure a navigable waterway are vital projects in the development of our nation's water resources. We kindly ask that Congress continue to support these projects in fiscal year 1990 by appropriating the requested funds.

Thank you for permitting me the privilege of this presentation.

RESOLUTION OF LONG BEACH BOARD OF HARBOR COMMISSIONERS

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A RESOLUTION OF THE BOARD OF HARBOR COMMISSIONERS OF THE CITY OF LONG BEACH, CALIFORNIA, REQUESTING THE CONGRESS OF THE UNITED STATES TO APPROPRIATE FUNDS TO CONTINUE THE LOS ANGELES-LONG BEACH HARBORS STUDY, TO CONTINUE THE LOS ANGELES AND LONG BEACH HARBORS MODEL STUDY PROGRAMS, BOTH RELATING TO IMPROVEMENTS IN SAN PEDRO BAY, AND FOR REMEDIAL MAINTENANCE DREDGING IN THE MOUTH OF THE LOS ANGELES RIVER, ALL BY THE UNITED STATES ARMY CORPS OF ENGINEERS, AND MAKING A DETERMINATION RELATING THERETO.

WHEREAS, the Ports of Long Beach and Los Angeles in San Pedro Bay, California, are two of a limited number of sites on the West Coast of the United States which possess the potential for deep water ports as recommended in the West Coast Deep Water Port Facility Study conducted by the United States Army Corps of Engineers; and

WHEREAS, the Ports of Long Beach and Los Angeles have a record of both physical and fiscal growth to the extent that together the two are presently handling over 124 million metric revenue tons of cargo annually (fiscal year 1988), which cargo is valued at over 80 billion dollars; and

WHEREAS, the growth and activity of the Ports of Long Beach and Los Angeles have a significant regional and national

economic effect; and

WHEREAS, in excess of 2.5 billion dollars in federal revenues are derived annually through United States Customs duties on foreign imports passing through the Ports of Long Beach and Los Angeles; and

WHEREAS, both Ports are now, and are increasingly becoming, hard-pressed to provide facilities to meet the needs of the shipping industry, and to that end are conducting extensive studies, in conjunction with federal studies, to determine navigational, transportation, and environmental requirements necessary to provide economic and adequate surge-free berthing and cargo handling facilities; and

WHEREAS, all existing land in the Port of Long Beach which can be developed for shipping operations has been utilized and to meet the needs of the following decade, the design, permitting and construction of new lands must commence immediately; and

WHEREAS, continuation of the studies currently underway by the United States Army Corps of Engineers, consisting of the Los Angeles-Long Beach Harbors Study originally requested by the Committees on Public Works of both the House and the Senate, and the Los Angeles and Long Beach Harbors Model Study programs, including maintenance and operation of the San Pedro Bay Hydraulic Model at Vicksburg, Mississippi, as authorized by Section 123 of the Water Resources Development Act of 1976, is urgently needed for use in the design and permitting processes for future landfills for Port Development; and

WHEREAS, it is necessary, as part of the Los Angeles and Long Beach Harbors Model Study programs, to upgrade existing hydraulic models to assure adequate water quality and surge-free berthing, which includes obtaining long-term data on the hydraulic regime in San Pedro Bay by conducting a model enhancement program using self-contained recording instruments to determine currents and energy entering the Bay; and

WHEREAS, the Los Angeles River is the largest of numerous flood-control channels constructed and maintained jointly by the Los Angeles County Flood Control District and the United States Army Corps of Engineers, and silt deposit from heavy storm runoff in recent years accumulating in the mouth of the Los Angeles River between th City and the Port of Long Beach constitutes a restriction and hazard to both commercial and recreational boating; and

WHEREAS, the Board of Harbor Commissioners of the City of Long Beach, as a properly constituted and financially responsible local agency, by its Resolution No. HD-890, adopted August 3, 1965, expressed its intent to enter into such agreements as may be reasonably required to further federal projects for the development and improvement of Long Beach and Los Angeles Harbors; and

NOW THEREFORE, the Board of Harbor Commissioners of the City of Long Beach resolves as follows:

Section 1. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army Corps of Engineers, to continue the Los

Angeles-Long Beach Harbors Study.

Sec. 2. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army Corps of Engineers, to maintain the San Pedro Bay Hydraulic Model at the Waterways Experiment Station at Vicksburg, Mississippi, as part of the Los Angeles and Long Beach Harbors Model Study programs.

Sec. 3. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army Corps of Engineers, to continue the model enhancement program of San Pedro Bay to obtain prototype data and develop improved water quality and ship motion models, essential to long-range planning and design, also as part of the Los Angeles and Long Beach Harbors Model Study programs.

Sec. 4. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army Corps of Engineers, in conjunction with the Los Angeles County Flood Control District, to engage in the necessary maintenance dredging at the mouth of the Los Angeles River to remove silt deposits which have accumulated at that location.

Sec. 5. That the Executive Director of the Long Beach Harbor Department be, and he is hereby, directed to send copies of this resolution to the United States Senators and to Members of the House of Representatives from California, with a

letter requesting their assistance in presenting this resolution before the proper Congressional committees.

Sec. 6. That the Executive Director of the Long Beach Harbor Department be, and he is hereby, further directed to send copies of this resolution to the President of the United States; the Director, Office of Management and Budget; the Secretary of the Army; the Chief of Engineers, the Board of Engineers for Rivers and Harbors, the Division Engineer-South Pacific Division and the District Engineer-Los Angeles, all of the United States Army Corps of Engineers; and to such other interested persons as he may deem appropriate.

The Secretary of the Board shall certify to the passage of this resolution by the Board of Harbor Commissioners of the City of Long Beach, shall cause the same to be posted in three (3) conspicuous places in the City of Long Beach, and shall cause a certified copy of this resolution to be filed forthwith with the City Clerk of the City of Long Beach and it shall thereupon take effect.

I hereby certify that the foregoing resolution was adopted by the Board of Harbor Commissioners of the City of Long Beach at its meeting of March 20, 1989 by the following vote:

Ayes:	Commissioners	Friedland, Langslet, DuVall, Talin
Noes:	Commissioners	None
Absent:	Commissioners	Hauser
Not Voting:	Commissioners	None

Secretary

Mr. LANGNER. Thank you.

Mr Chairman, we also have a number of other representatives here who are submitting statements and will be introduced, including Supervisor Tom Powers from Contra Costa County and Richard Dornhelm of Moffatt & Nichols on behalf of the California Marine Parks and Harbors Association, both of whom have submitted statements.

Mr. LANGNER. We also have present Jack Alderson, chief executive officer of the Humboldt of Bay Harbor District; and Robert Davenport, commissioner; Frank Berlogar, Berlogar Geotechnical; Ed Gorman of Daniel, Mann, Johnson & Mendenhall; Robert Jennings, commissioner; and Edward Millan, commissioners of the Oxnard Harbor District; Les Westfall of Humboldt Harbor, Eureka; Dick Millard, Richard Millard Associates; we also have letters submitted as testimony for the record from the Moss Landing Harbor District and San Mateo Harbor District, representation of the Crescent City, and Joe Ridada of Sonoma County.

And before you arrived, Senator Wilson, we mentioned that we our celebrating our 30th Golden State luncheon tomorrow, which I hope you will attend, coexistent with the 200th celebration of the birthday of the Congress.

We wish you both happy birthday.

With our testimony, by the way, there is a map showing our official membership, including those which are here today. This is a new thing we have devised for your entertainment and knowledge.

We thank you very much, sir. We hope we have been expeditious.

Senator REID. You have been excellent and I appreciate very much the concise, direct testimony. The committee will take it to heart.

[The statements follow:]

STATEMENT OF JOHN CHRISTIAN, DIRECTOR OF ENGINEERING, PORT OF SACRAMENTO, CA

Mr. Chairman and Members of the Committee:

Thank you, Mr. Chairman and members of the Subcommittee for this opportunity to present testimony on behalf of the Sacramento River Deep Water Ship Channel Deepening Project.

After 17 years of study, our Project was authorized and funded through the passage of the Water Resources Development Act of 1986. We have entered into a Local Cooperation Agreement with the Army, providing for cost sharing.

Since authorization, the Corps of Engineers and ourselves as partners, have instituted changes in the Project that has REDUCED its total cost from $79 million dollars to $45 million dollars. This is a SAVINGS of $34 million dollars which all involved can point to with pride.

First phase dredging is scheduled to start later this month. We respectfully urge that you support the amount of $2.8 million dollars in the President's Budget for Fiscal Year '90, which will permit the construction to continue as planned throughout the coming fiscal year.

STATEMENT OF CONTRA COSTA COUNTY AND CONTRA COSTA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

SUMMARY

Project	Requested Amount	Remarks
1 - Walnut Creek	$3,618,000	Construction - President's Budget Recommendation - California Water Commission #37
2 - Wildcat-San Pablo Creeks	$1,000,000	Construction - President's Budget Recommendation- California Water Commission #38
3 - Walnut Creek Basin Restudy	$ 150,000	Planning - Corps of Engineer's preparation of feasibility reports on projects - California Water Commission #16

We, the Contra Costa County Board of Supervisors, would like to express the appreciation of Contra Costa County for the accomplishments made possible by your Committee's past appropriations for flood control projects which have had far-reaching benefits to the people of this county. Today we offer testimony in support of appropriations for fiscal year 1989-90 on three projects as follows:

Construction, Walnut Creek Project

We support the proposed budget amount of $3,618,000 to continue this project. This amount will allow completion of the construction of Contract #3 for the San Ramon Bypass Project. This work will complete the bypass of storm flows around the downtown area of the City of Walnut Creek, thereby eliminating a serious flood threat to this community.

Construction, Wildcat-San Pablo Creeks

We support the budgeted amount of $1,000,000 for construction of improvements on Wildcat and San Pablo Creeks. The completed work will provide much needed flood protection for the North Richmond area of Contra Costa County. This area has been plagued by continual flooding. Efforts by the County and community to rejuvenate this urbanized area have been ineffective due to the flooding problem. With completion of the channel improvements we feel confident that this area can be redeveloped to provide the quality of life for its residents that we desire for all residents of our County.

Planning, Walnut Creek Basin Restudy

We support an allocation of $150,000 to provide funding for the Corps of Engineers to commence advance engineering on five of the creeks authorized for study in the Walnut Creek Basin. This work will complete the project feasibility studies needed by the Corps of Engineers in the project authorization process. Consistent with the new federal cost sharing, our local Flood Control District will be providing matching funds to the federal government for the Corps of Engineer work.

California Water Resource Development Projects

STATEMENT OF HON. PETE WILSON, U.S. SENATOR FROM CALIFORNIA

Senator Reid. I would like to turn now the time to Senator Pete Wilson of California.

Senator Wilson. Well, thank you very much, Mr. Chairman.

I was hoping that his schedule would permit Chairman Anderson to stay.

Good, I am glad he is able to stay.

I would be remiss if I did not comment on the remarkable cooperation that I have enjoyed with him and more to the point, the leadership that he has given in matters of water transportation, he is a leader not just in the House of Representatives, but in the Congress. And he gave me a quick capsule of his testimony, and I gather that he has covered the entire State.

But it is an extraordinary job that he does; not just for his constituents, but really for those throughout the State. And it is a pleasure to work with him. And, more importantly, I am grateful for the kind of job that he does.

I thank you, Mr. Chairman, for this opportunity. And even though I would like to linger lovingly on each syllable of it, that hardly seems fair in light of the model that is presented here of succinct and effective testimony. And so I will not set a bad example.

But I would like to say that it is always a pleasure for me each year when the members of these two organizations come forward because they do a better job, I must say, of collecting and distilling the factual arguments for these many projects, all of which are of enormous importance to them and to me, than to any other groups in the State.

They really have boiled it down, and the presentation, I think, reflects not only a great deal of thought on their part in marshaling their arguments, but also a great deal of thoughtfulness about the time of the committee.

And so they have sought to make the record, but to do so briefly, and as pointedly as possible. And since you and I both sit through a great deal of testimony that is not of that kind, I think it important to reward them by stating that we are grateful and only wish that you were casting an even longer shadow serving as a model to more people.

There are, on the lists of projects that they have presented to you and in the testimony they are presenting to you, genuinely priority projects. We fully think that all that have been incorporated into the President's budget are deserving of the administration's support, at least at the level that has been indicated.

Santa Ana Mainstream, California, Flood Control Project

I would like to say as an example of the urgency with which we view these projects that, to take one as an example, the Santa Ana flood control project, is one that in prior years has received administration support. It is, this year, authorized in the President's budget to receive some $20 million to begin on a flood control project. That is literally the difference between safety and grave

danger to several million people in the most rapidly growing area of the State; some 12 billion dollars' worth of property are in jeopardy were there a flood of the kind that can occur overflowing the Santa Ana River.

This main stem project is obviously, though, of far greater importance in terms of the protection of the 2 million residents of San Bernardino, Riverside, and Orange Counties, who live in the flood plain of the Santa Ana River.

Last year it was in the budget, but because of the new-starts policy of the Congress, it did not receive funding. It is again in the President's budget. It is of, I think, paramount importance that it be started because it is, in the view of the Corps of Engineers, the most urgent flood control project west of the Mississippi.

We have gone through 3 years of drought. Happily, that seems to be ending. At the very least, we have had the wettest month this past month, almost in history which has not quite brought our reservoirs up to where they ought to be,

But, ironically, in a time of drought we really continue to focus on the need for flood control projects. Because it is just by God's grace that water that we need so much does not come all at once in a time when we are not prepared to handle it.

So, Mr. Chairman, I know that you and the members of the committee are sensitive to need, and we are also aware of the difficulty in trying to stretch resources, but these really are of critical importance.

I might say that one, not on that first list, one that we hope will make a second list, is typical of many other projects, and that relates to the Sacramento River.

Again, we have a tremendous potential problem there. We have had 3 drought years as I have indicated, but in 1986 the rains came. And, indeed, the expectation on the part of one Corps of Engineers official was that if a single inch more had come at that point, the entire city of Sacramento might have been flooded.

I mention that because I think that it is obvious the seriousness of at least getting a start on these projects. There is an enormous amount at stake in terms of human safety, as well as the property that is jeopardized. But I think the statement in its entirety makes those points, so I will not take more time, Mr. Chairman.

And I am grateful to you, as I am to those in this packed hearing room; they really have distilled it down.

And I would say on their behalf that the distillation does not bespeak a casual approach. In fact, their presentations are almost in inverse proportion, I would say, to the seriousness and the amount of effort and preparation that have gone into that effort at distilling them, so as to save the committee's time.

Thank you, sir.

Senator REID. Senator Wilson, I would agree. I think they set a good example for what hearings should be: direct, to the point, and certainly they conveyed the message.

[The statement follows:]

STATEMENT OF SENATOR PETE WILSON

MR. CHAIRMAN, AS IN YEARS PAST, I AM APPRECIATIVE OF THE SUBCOMMITTEE'S WILLINGNESS TO TAKE THE TIME TO HEAR WHAT CALIFORNIA HAS TO SAY REGARDING ITS ENERGY AND WATER APPROPRIATION NEEDS FOR FISCAL YEAR 1990. I LOOK FORWARD TO THIS WEEK EVERY YEAR AS AN OPPORTUNITY TO GET TOGETHER WITH MY FELLOW CALIFORNIANS HERE IN WASHINGTON. I HOPE THAT THE MESSAGE THEY BRING BACK IS AS INFORMATIVE AND USEFUL TO YOU AS IT IS FOR ME.

I AM HAPPY TO REPORT THAT IT APPEARS THAT CALIFORNIA HAS FINALLY BEEN BLESSED WITH ENOUGH RAIN TO CARRY US THROUGH THIS WATER YEAR. JUST LAST MONTH, IT WAS PREDICTED THAT WATER DELIVERIES WOULD HAVE TO BE CUT BY 50 PERCENT OR MORE IN MANY PARTS OF CENTRAL CALIFORNIA. THANKS TO THE WETTEST MONTH OF MARCH ON RECORD, MANY OF OUR RESERVOIRS ARE BACK TO NEAR NORMAL. WE ARE NOT IN THE CLEAR YET, AND SOME COMMUNITIES MAY STILL HAVE TO MAKE DO WITH LESS, BUT IT LOOKS LIKE WE HAVE SURVIVED WHAT COULD HAVE BEEN A DEVASTATING THIRD CONSECUTIVE DRY YEAR.

EVEN WITH ALL THE RECENT TALK ABOUT A DROUGHT, I AM SURE THAT IT COMES AS NO SURPRISE TO YOU THAT THE APPROPRIATION NEEDS FOR CALIFORNIA HAVE HARDLY DIMINISHED FROM WHAT THEY HAVE BEEN IN YEARS PAST. IN THIS REGARD, I WOULD HIGHLY COMMEND TO THE COMMITTEE THE RECOMMENDATIONS THAT HAVE BEEN ASSEMBLED BY THE CALIFORNIA MARINE AFFAIRS AND NAVIGATION CONFERENCE (C-MANC) AND THE CALIFORNIA WATER COMMISSION. THESE ORGANIZATIONS CONTINUE THEIR OUTSTANDING TRADITION OF AMALGAMATING THE NUMEROUS REQUESTS FOR APPROPRIATIONS FROM

THROUGHOUT THE STATE AND ORGANIZING THEM INTO A USEFUL PACKAGE OF INFORMATION FOR THE COMMITTEE'S CONSIDERATION.

FOR EXAMPLE, THE WATER COMMISSION HAS SUBJECTED ALL FUNDING REQUESTS -- EVEN THE PRESIDENT'S REQUESTS -- TO A RIGOROUS ANALYSIS. THE COMMISSION IS AWARE OF THE SEVERE BUDGET CONSTRAINTS UNDER WHICH CONGRESS IS WORKING AND WILL NOT RECOMMEND A PROJECT UNLESS THEY ARE CONVINCED THAT THE PROJECT IS NECESSARY. THEIR FINAL RECOMMENDATIONS DESERVE THE COMMITTEE'S CAREFUL CONSIDERATION.

IN ADDITION TO THE WATER COMMISSION RECOMMENDATIONS, THERE ARE A NUMBER OF IMPORTANT CORPS FLOOD CONTROL AND HARBOR MAINTENANCE PROJECTS THAT NEED TO BE FUNDED. MOST OF THESE PROJECTS WILL BE ADDRESSED BY THE C-MANC TESTIMONY AND OTHERS THAT YOU WILL HEAR FROM TODAY.

NEVERTHELESS, I WOULD LIKE TO MENTION ONE PROJECT IN THE PRESIDENT'S BUDGET REQUEST THAT DESERVES SPECIAL ATTENTION FROM THE COMMITTEE: THE SANTA ANA RIVER MAINSTEM PROJECT. THIS PROJECT WAS SCHEDULED BY THE CORPS TO BEGIN CONSTRUCTION IN THE CURRENT FISCAL YEAR, BUT AS YOU KNOW, CONSTRUCTION WAS DELAYED BECAUSE OF THE "NO NEW STARTS" POLICY THAT CONGRESS AGREED TO LAST YEAR.

THIS PARTICULAR FLOOD CONTROL PROJECT IS CONSIDERED VITAL TO THE PROTECTION OF TWO MILLION RESIDENTS OF SAN BERNARDINO, RIVERSIDE AND ORANGE COUNTIES WHO LIVE IN THE FLOOD PLAIN OF THE SANTA ANA RIVER. THE CORPS OF ENGINEERS HAS DETERMINED THAT FLOODING OF THIS RIVER COULD CAUSE AN ESTIMATED $12 BILLION IN DAMAGE AND LOSS OF LIFE IN A SEVERE FLOOD. THE

SANTA ANA RIVER MAINSTEM PROJECT WOULD PROVIDE FOR MUCH NEEDED FLOOD PROTECTION THROUGH THE CONSTRUCTION AND ENLARGEMENT OF DAMS, LEVEES AND CHANNELS.

THE ADMINISTRATION AND THE CALIFORNIA WATER COMMISSION HAVE BOTH RECOMMENDED THAT THIS PROJECT BE STARTED WITH AN INITIAL APPROPRIATION OF $20 MILLION. HAVING ALREADY MADE THE DECISION TO BUILD THIS MAMMOTH PROJECT, CONGRESS SHOULD NOT BACK AWAY FROM ITS COMMITMENT TO FUND IT JUST AT THE TIME WHEN WE ARE READY TO GO TO CONSTRUCTION. I WOULD URGE THE COMMITTEE TO INCLUDE CONSTRUCTION FUNDS FOR THE SANTA ANA RIVER MAINSTREAM PROJECT IN ORDER TO BEGIN PROVIDING FLOOD PROTECTION FOR THIS VERY POPULOUS AREA.

MR. CHAIRMAN, I MENTION THIS PARTICULAR REQUEST ONLY AS AN ILLUSTRATION OF WHAT CALIFORNIA'S NEEDS ARE. THERE ARE MANY DESERVING PROJECTS THAT YOU WILL HEAR ABOUT TODAY.

GENERALLY SPEAKING, I WOULD LIKE TO REGISTER MY SUPPORT FOR THE PRESIDENT'S BUDGET. THE FOLLOWING LIST OF BUREAU OF RECLAMATION AND CORPS PROJEGTS HAVE THE PRESIDENT'S ENDORSEMENT AND HAVE SPECIFICALLY BEEN BROUGHT TO MY ATTENTION:

CORPS OF ENGINEERS

PROJECT	PRESIDENT'S REQUEST
SURVEYS	
AMERICAN RIVER WATERSHED	265,000
YUBA RIVER WATERSHED	375,000
IMPERIAL & SAN DIEGO STREAMS FLOWING INTO SALTON SEA	375,000
MARIN CO. SHORELINE-SAN RAFAEL CANAL	50,000
SACRAMENTO-SAN JOAQUIN DELTA INVESTIGATION	400,000
NO. CALIFORNIA STREAMS-SACRAMENTO METRO INTERIM	375,000

CORPS OF ENGINEERS

PROJECT	PRESIDENT'S REQUEST
SURVEYS	
INSPECTION OF COMPLETED WORKS-SACRAMENTO FLOOD CONTROL	900,000
NORTH BAY INTERIM-NAPA, SOLANO	65,000
SAN JOAQUIN RIVER BASIN-TULE RIVER	90,000
SAN JOAQUIN RIVER BASIN-KAWEAH RIVER	120,000
SAN JOAQUIN RIVER BASIN-CALAVERAS RIVER	300,000
SAN JOAQUIN RIVER BASIN-PINE FLAT DAM	400,000
MOKELUMNE RIVER	490,000
SAN LORENZO RIVER-SANTA CRUZ	300,000
SANTA ANA RIVER & ORANGE CO. FINAL REPORT	255,000
UPPER GUADALUPE RIVER-SANTA CLARA	320,000
WALNUT CREEK BASIN	150,000
PRECONSTRUCTION ENGINEERING AND DESIGN	
CALIENTE CREEK	600,000
NO. CALIFORNIA STREAMS-DRY CREEK	320,000
LOWER MISSION CREEK-SANTA BARBARA	550,000
CACHE CREEK-OUTLET CHANNEL	300,000
COYOTE AND BERRYESSA CREEKS-SANTA CLARA	800,000
MORRO BAY	200,000
NOYO RIVER AND HARBOR	137,000
NAPA RIVER FLOOD CONTROL PROJECT	1,178,000
REDONDO BEACH	120,000
CONSTRUCTION - GENERAL	
SANTA ANA RIVER MAIN STEM	20,000,000
HANSEN DAM	780,000
CACHE CREEK-SETTLING BASIN	5,500,000
CORTE MADERA CREEK	1,100,000
DRY CREEK-WARM SPRINGS	3,950,000
FAIRFIELD VICINITY STREAMS	2,945,000
LOWER SAN JOAQUIN RIVER AND TRIBUTARIES	2,000,000
MERCED CO. STREAMS	1,100,000
OAKLAND HARBOR	3,500,000
RICHMOND HARBOR	900,000
REDBANK AND RANCHER	11,300,000
SACRAMENTO RIVER DEEP WATER CHANNEL	2,800,000
SAN FRANCISCO BAY TO STOCKTON	2,650,000
SUNSET AND NEWPORT BEACH	4,470,000
SACRAMENTO RIVER BANK PROTECTION	7,500,000
SAN LUIS REY RIVER	10,000,000
WALNUT CREEK	3,618,000
WILDCAT AND SAN PABLO CREEKS	1,000,000

BUREAU OF RECLAMATION

PROJECT	PRESIDENT'S REQUEST
AUBURN-FOLSOM SOUTH UNIT	1,700,000
SACRAMENTO RIVER DIVISION	6,325,000
SAN LUIS UNIT	5,428,000
SAN FELIPE DIVISION - SAN BENITO	2,500,000
TRINITY RIVER RESTORATION	12,280,000
MISCELLANEOUS PROJECT FACILITIES	
SUISUN MARSH PRESERVATION AGREEMENT	3,340,000
TEMPERATURE CONTROL DEVICE-SHASTA DAM	4,510,000
OTHER PROJECTS	
ELSINORE VALLEY MUNICIPAL WATER DIST.	10,821,000
UNITED WATER CONSERVATION DISTRICT	6,247,000
COLORADO RIVER BASIN SALINITY CONTROL PROJECT-TITLE I	19,060,000
OTHER BuREC PROGRAMS	
ALL AMERICAN CANAL-LINING PROJECT	560,000
INDIAN WELLS VALLEY GROUND WATER	175,000
COLORADO RIVER FRONT	8,400,000
CENTRAL VALLEY PROJECT O & M	54,765,000

I WOULD HOPE THAT THE COMMITTEE WILL ACT FAVORABLY ON THESE REQUESTS.

AS IN YEARS PAST, I WILL NOT ADVOCATE ADDITIONS TO THE PRESIDENT'S BUDGET REQUEST UNLESS THE COMMITTEE DECIDES THAT ADDITIONAL MONEY IS AVAILABLE FOR ENERGY AND WATER APPROPRIATIONS. IN THAT EVENT, I URGE THE COMMITTEE TO ENSURE THAT CALIFORNIA RECEIVES ITS FAIR SHARE OF ANY APPROPRIATIONS MADE IN ADDITION TO THE PRESIDENT'S BUDGET REQUEST.

ONE EXAMPLE OF THE TYPE OF PROJECT THAT SHOULD BE GIVEN CAREFUL CONSIDERATION BY THE COMMITTEE IS THE OCEANSIDE HARBOR SAND BYPASS SYSTEM. THIS SYSTEM IS DESIGNED TO COLLECT SAND TRAPPED IN AND AROUND THE HARBOR ENTRANCE AND TRANSPORT IT THROUGH A SUBMERGED PIPE TO REPLENISH THE ADJOINING OCEANSIDE CITY BEACHES.

TESTING OF THE NEWLY INSTALLED SYSTEM HAS ALREADY BEGUN A FULL OPERATION IS EXPECTED TO BEGIN THIS SUMMER. ADDITIONAL FUNDS ARE NEEDED, HOWEVER, TO FINANCE THE INSTALLATION OF "FLUIDIZERS" THAT PROMISE TO MAKE THE SYSTEM WORK MUCH MORE EFFICIENTLY. IF THE FLUIDIZERS PROVE TO BE AS SUCCESSFUL AS EXPECTED, THEY COULD SUBSTANTIALLY REDUCE THE NEED FOR COSTLY MAINTENANCE DREDGING AT OUR NATION'S HARBORS. THE CITY OF OCEANSIDE DOES NOT HAVE THE FUNDS TO TEST THIS PROMISING NEW TECHNOLOGY AND REQUESTS THAT A TOTAL OF $4 MILLION BE MADE AVAILABLE IN FY 1990 TO FINANCE THIS SYSTEM.

I WOULD ASK THAT THE COMMITTEE ALSO LOOK FAVORABLY AT PROJECTS SUCH AS THE SACRAMENTO RIVER FLOOD CONTROL PROJECT. BECAUSE OF THE DRY YEARS CALIFORNIA HAS EXPERIENCED IN EACH OF THE LAST THREE WINTERS, SACRAMENTO'S FLOOD PROTECTION HAS NOT BEEN SERIOUSLY TESTED SINCE 1986. HOWEVER, IN THAT YEAR, THIS PROTECTION WAS ALMOST OVERWHELMED. WHILE THEY MAY BE EXAGGERATING SLIGHTLY, CORPS OFFICIALS HAVE SAID THAT IF IT HAD RAINED ONLY ONE MORE INCH DURING THE STORMS IN FEBRUARY OF THAT YEAR, THE ENTIRE CITY OF SACRAMENTO COULD HAVE BEEN FLOODED. BECAUSE OF THE VERY REAL POSSIBILITY THAT THIS COULD HAPPEN AGAIN, IT IS IMPORTANT THAT LEVEE REPAIR AND RECONSTRUCTION BEGIN AS SOON AS POSSIBLE.

AGAIN, THESE ARE ONLY EXAMPLES OF THE TYPES OF PROJECTS THAT COULD BENEFIT FROM ADDITIONAL MONIES THAT MIGHT BECOME AVAILABLE TO THE COMMITTEE. THE FOLLOWING REPRESENTS A LIST OF CORPS AND BUREAU OF RECLAMATION PROJECTS THAT HAVE BEEN DETERMINED BY THE AFFECTED PARTIES NOT TO HAVE BEEN ADEQUATELY FUNDED IN THE PRESIDENT'S BUDGET. I COMMEND THEM TO YOU FOR YOUR CONSIDERATION:

ARMY CORPS PROJECTS:

COAST OF CALIFORNIA - STORM AND TIDAL WAVE STUDY
GOLETA VICINITY STREAMS
GLENN-COLUSA IRRIGATION DISTRICT
GUADALULPE RIVER-SANTA CLARA
LOS ANGELES - LONG BEACH HARBORS
LOS ANGELES COUNTY DRAINAGE AREA
NEW MELONES LAKE
NEWPORT BAY HARBOR
NORTH COAST OF LOS ANGELES COUNTY
OCEANSIDE HARBOR SAND BYPASS SYSTEM
POINT MUGU - SAN PEDRO BREAKWATER
SWEETWATER RIVER - SAN DIEGO
SAN LEANDRO BAY
SACRAMENTO FLOOD CONTROL PROJECT
SANTA CRUZ HARBOR
SAN JOAQUIN RIVER BASIN - SEDIMENTATION INVESTIGATION
SUNSET HARBOR
VENTURA MARINA
WEST NEWPORT BEACH HARBOR
WHITEWATER RIVER STORMWATER CHANNEL-RIVERSIDE

OPERATION AND MAINTENANCE:
CRESCENT CITY HARBOR
MARINA DEL REY
MORRO BAY HARBOR
LOS ANGELES-LONG BEACH HARBORS
PETALUMA RIVER
SAN FRANCISCO BAY - DELTA MODEL STUDY
SAN FRANCISCO HARBOR
SAN LEANDRO MARINA
SAN FRANCISCO HARBOR AND BAY - DRIFT REMOVAL

BuREC PROJECTS

SAN BERNARDINO VALLEY GROUND WATER PROJECT
SAN BERNADINO COUNTY (DAY CREEK) LOAN
SAN FELIPE DIVISION - WATSONVILLE SERVICE AREA
SAN JOAQUIN VALLEY CONVEYANCE STUDY
OFF STREAM STORAGE STUDY
COLORADO RIVER SALINITY CONTROL PROJECT

ONCE AGAIN, I THANK THE SUBCOMMITTEE FOR ITS WILLINGNESS TO HEAR THESE APPROPRIATION REQUESTS. CALIFORNIA HAS DONE WELL BY THIS SUBCOMMITTEE IN THE PAST, AND I SINCERELY HOPE THAT WE CAN CONTINUE OUR CONSTRUCTIVE WORKING RELATIONSHIP. I LOOK FORWARD TO WORKING WITH THE COMMITTEE AS WE CONTINUE TO CONSIDER THE FISCAL YEAR 1990 ENERGY AND WATER APPROPRIATIONS BILL.

Senator REID. The next panel of witnesses will be the California Water Commission. The leader of that group will be Mr. Clair Hill. And you have until 2:05 today to complete your testimony.

Senator WILSON. Mr. Chairman, may I take some time and not have it charged against Mr. Hill?

Senator REID. Of course.

Senator WILSON. He is, of course, well known to those in the room as sort of the father of water policy in the State of California and beyond. And he has a history that I hope will be adequately chronicled some day. He has done an extraordinary job and I think that those who served with him would be more than willing to give testimonials to that effect. And I am grateful for his services; I know they are.

I would simply say to members of both the commission and C-MANC that I thank them and I have to now go. I forgot it was late because I have to introduce two California judges to the Judiciary Committee, that is, one I hope will be a judge; one who will be, I hope, an appellate judge. They are the first two nominees of the Bush administration. And now I have to go to the Armed Services Committee, where there is vote in progress on the Deputy Secretary of Defense.

So, again I thank you for your courtesy and I ask that you and they will excuse me.

Senator REID. Thank you very much for being here today. You and Chairman Anderson have been a big help. We are grateful for your appearance here today.

Mr. Hill.

CALIFORNIA FLOOD CONTROL AND IRRIGATION PROJECTS

STATEMENT OF CLAIR A. HILL, CHAIRMAN, FEDERAL APPROPRIATIONS COMMITTEE, CALIFORNIA WATER COMMISSION

Mr. HILL. Thank you very much, Senator Wilson. I appreciate your coming.

Senator Reid, my name is Clair Hill. I am chairman of the Federal Appropriations Committee and have with me four other members of the committee: Mr. Stan Barnes, Mr. Martin Madidge, Mrs. Audrey Tennis, and Mr. Jim Lanaham. We are the official agency representing California.

We have coordinated our presentations with the presentations of the local agencies. I did not realize that we were going to be cut quite to 20 minutes, but we will do it.

Senator REID. You have 25 minutes.

Mr. HILL. Thank you. That's a little better.

The commission supports funding all the projects in the President's budget for Corps of Engineers and the Bureau of Reclamation.

Projects which are cost-shared by the State and local agency are moving ahead at a reasonable rate and the President's budget provides reasonable funding for both the Corps and Bureau of Programs on the fishery matter.

The administration has proposed a Bureau of Reclamation operation and maintenance revolving funding, and the President's budget assumes congressional approval of this legislation.

The commission is working with local agencies to obtain congressional approval of the appropriate legislation. We are supporting funding of 17 projects, Corps of Engineers and Bureau of Reclamation, which we believe merits special consideration. The commission's formal statement has been filed and I will now introduce members of our delegation. And I have asked them to keep their remarks to a minimum.

Our first witness is Mr. Ray Barsch.

[The statement follows:]

STATEMENT OF CLAIR A. HILL

Mr. Chairman and members of the Committee, I am Clair A. Hill, Chairman of the Federal Appropriations Committee of the California Water Commission. The California Water Commission is an official agency of the State of California. It is composed of nine representative citizens from throughout the State. The Commission is charged by statute with representing state and local interests before this Committee. We have coordinated our presentation with the presentations by local agency representatives. On behalf of the California Water Commission, I would like to express our sincere appreciation for the support this Committee has given California water and flood control appropriations over the years. I am privileged to appear before you with the official recommendations of the State of California for fiscal year 1989-90 appropriations.

The Commission supports funding for all projects of the Corps of Engineers and the Bureau of Reclamation included in the President's budget so that planning, design and construction of the projects can proceed on a timely schedule. Projects which are cost shared by local agencies are moving ahead at a reasonable rate, and the President's budget provides reasonable funding for both Corps and Bureau programs for fishery mitigation.

The administration has proposed a Bureau of Reclamation operation and maintenance revolving fund. Funding in the President's budget assumes Congressional approval of this legislation. The Commission is working with local agencies to obtain Congressional approval of appropriate legislation.

RECOMMENDATIONS FOR ADDITIONAL FUNDS

The Commission is recommending that additional funds be appropriated for several Corps of Engineers and Bureau of Reclamation projects. They are summarized in the table below with brief comments on the need for the additional funds following the table.

CORPS OF ENGINEERS

	Project	President's Budget	Commission's Recommendation
1.	Northern California Streams Glenn-Colusa Irrigation District	$ -	$ 360,000
2.	San Joaquin River System Sedimentation Investigation	-	500,000
3.	Whitewater River Stormwater Channel	-	340,000
4.	Los Angeles County Drainage Area	-	3,000,000
5.	Goleta Vicinity Streams	-	400,000
6.	Guadalupe River	400,000	1,500,000
7.	New Melones Lake	-	3,000,000
8.	Sweetwater River	-	5,300,000
9.	Sacramento River Flood Control Project	1,600,000	4,600,000
Total-Corps of Engineers		$2,000,000	$ 19,600,000
	TOTAL ADDITIONAL-CORPS OF ENGINEERS		$ 17,000,000

BUREAU OF RECLAMATION

Project	President's Budget	Commission's Recommendation
10. San Felipe Division ($400,000 added for Watsonville Service Area Investigation)	$2,500,000	$ 2,900,000
11. Salinas Valley Basin Water Management Plan	-	180,000
12. Offstream Storage Investigation	-	125,000
13. San Joaquin Valley Conveyance Investigation	25,000	250,000
14. Delta Water Management Program	-	350,000
15. Refuge Water Supply	25,000	92,000
16. Santa Ana Watershed Management Study	-	200,000
17. Coleman National Fish Hatchery	-	5,525,000
Total-Bureau of Reclamation	$2,550,000	$ 9,622,000
TOTAL ADDITIONAL-BUREAU OF RECLAMATION		$ 7,072,000

Additional funding would allow the Corps to:

1. Evaluate the project required to stablize the river hydraulics at the Glenn-Colusa Irrigation District.

2. Initiate a reconnaissance study of removing sediment and vegetation from the San Joaquin River and the bypass systems so that the system will convey design flood flows.

3. Initiate a reconnaissance study of the Whitewater River stormwater channel to alleviate flooding in Coachella Valley.

4. Initiate preconstruction engineering and design work on the Los Angeles County Drainage Area project needed to upgrade flood protection in this high density urban area.

5. Resume design activities on the recently reformulated Goleta Vicinity Streams.

6. Initiate construction of the Guadalupe River flood control project in Santa Clara County.

7. Construct the last facilities at Glory Hole and Tuttletown Recreation Areas at New Melones Lake. Local agencies support development of facilities at approximately 50 percent of the cost of facilities initially proposed by the Corps at Engineers.

8. Resume construction of the Sweetwater River flood control project. The Construction of the project was stopped because of litigation. A court approved agreement to resolve the issues was reached to late for the Corps to include funds in the FY 89-90 budget.

9. Initiate reconstruction of levees in the Sacramento area to ensure the Sacramento River Flood Control Project continues to deliver the full benefits intended by the Congress.

The additional funds would allow the Bureau to:

10. Continue the feasibility study of conveying San Felipe water to the Watsonville Service Area.

11. Initiate a joint federal-local investigation of solutions to the deteriorating water quality and management problems in the Salinas Valley ground water basin.

12. Prepare a feasibility report on offstream storage sites on the east side of the Tulare Lake basin and continue the joint federal-state investigation of the Los Banos Grande offstream reservoir.

13. Continue the preparation of the plan which will contain a preferred alternative for resolving the ground water overdraft problems in the San Joaquin Valley.

14. Continue Bureau involvement in the ongoing State-Corps-Bureau program to formulate a series of plans that would be acceptable to the public while maintaining beneficial Delta water uses.

15. Complete the report on water supply for wildlife refuges.

16. Continue the formulation of a program to resolve high ground water issues in the Upper Santa Ana River Watershed.

17. For the Coleman National Fish Hatchery, the Commission reaffirms its support of funding to initiate rehabilitation of the hatchery. The hatchery is important in maintaining salmon and steelhead runs in the Upper Sacramento River, and is important to all west coast fishery interests. The Commission supports funding by the State of California for fifteen percent of the total costs.

    The Commission also supports return of the Coleman National Fish Hatchery to the Bureau of Reclamation for administration. The Commission recommends that funds be appropriated directly to the Bureau for the rehabilitation of the hatchery and for subsequent administration and operation.

INTERIOR/INDIAN AFFAIRS

18. San Luis Rey Tribal Economic Development Trust Fund

    The Commission supported the San Luis Rey Water Rights Settlement Act which resolved a longstanding, important and complex problem. The Commission supports the appropriation of the $32,600,000 authorized in the Act. The fair and just settlement of the San Luis Rey River water rights controversy envisioned by the Act cannot be carried out unless and until those funds are approrpriated. The Commission supports the President's budget amount of $5,000,000, plus additional funds up to a total of $32,600,000, to the extent available through the appropriation process.

Thank you for this opportunity to submit California's recommendation.

CALIFORNIA WATER COMMISSION
FEDERAL FLOOD CONTROL AND WATER PROGRAMS IN CALIFORNIA
FOR FISCAL YEAR 1989-90
(In Thousands of Dollars)

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RECOMMENDATIONS
CORPS OF ENGINEERS						
	GENERAL INVESTIGATIONS - SURVEYS					
3	Calleguas Creek Ventura (No funds needed in FY 90)	2,290	2,090	-	-	-
5	Imperial and San Diego Counties Streams Flowing into Salton Sea	1,261	511	-	375	375
6A	Marin County Shoreline-San Rafael Canal	600	400	150	50	50
7A	Sacramento-San Joaquin Delta Investigation	3,665	2,627	230	400	400
9	Northern California Streams- Sacramento Metropolitan Area Interim	1,125	450	300	375	375
9A	Inspection of Completed Works-Sacramento River Flood Control Project (O&M)	3,150	1,215	900	900	900
9B	Northern California Streams- American River Watershed Placer, El Dorado, Sacramento	2,025	1,160	600	265	265
9D	Northern California Streams- Yuba River Watershed	1,250	-	500	375	375

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RECOMMENDATIONS
9E	Northern California Streams-Sacramento River Restoration at Glenn-Colusa Irrigation District	-	-	360	-	360
10	San Francisco Bay Shoreline					
10-2	North Bay Interim Napa, Solano	920	643	212	65	65
11	San Joaquin River Basin					
11-2	Tule River	690	450	150	90	90
11-3	Kaweah River	1,125	585	350	120	120
11-6	Calaveras River	1,125	-	450	300	300
11-7	Kings River-Pine Flat Dam	1,375	300	250	400	400
11-8	San Joaquin River System Sedimentation Investigation	-	-	-	-	500
11-9	Mokelumne River and Tributaries	490	-	-	490	490
14	Santa Ana River and Orange County Riverside, Orange, San Bernardino					
14-3	Final Report	1,800	1,365	180	255	255
16	Walnut Creek Basin	1,436	1,051	235	150	150
18C	San Lorenzo River Santa Cruz	1,232	657	200	300	300
18D	Upper Guadalupe River Santa Clara	1,200	-	480	320	320

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RECOMENDATIONS
24B	Whitewater River Stormwater Channel Riverside	-	-	-	-	340
	GENERAL INVESTIGATIONS - PRECONSTRUCTION ENGINEERING AND DESIGN					
3A	Caliente Creek Kern	3,000	-	1,100	600	600
3B	Northern California Streams-Dry Creek Placer, Sacramento	1,100	-	400	320	320
6	Los Angeles County Drainage Area	9,000	-	200	-	3,000
15	Santa Barbara County Streams- Lower Mission Creek	1,400	-	-	550	550
18	Cache Creek-Outlet Channel Lake	2,250	1,700	250	300	300
18B	Coyote and Berryessa Creeks Santa Clara	2,000	100	800	800	800
23	Goleta Vicinity Streams Santa Barbara	2,650	1,263	-	-	400
39A	Napa River Flood Control Project Napa	4,900	2,640	550	1,178	1,178
	CONSTRUCTION - GENERAL					
5A	Hansen Dam	980	-	200	780	780
18-1	Cache Creek-Settling Basin Yolo	Fed 16,200 Non-Fed 5,700 Total 21,900	607	400	5,500	5,500
18A	Guadalupe River Santa Clara	2,400	1,389	611	400	1,500

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RECOMMENDATIONS
21	Santa Ana River Mainstem	Fed 1,018,000 Non-Fed 364,000 Total 1,382,000	17,738	6,150	20,000	20,000
25	Corte Madera Creek Marin	Fed 14,800 Non-Fed 11,600 Total 26,400	11,517	800	1,100	1,100
27	Dry Creek-Warm Springs Lake Sonoma	354,000	312,720	1,600	3,950	3,950
27A	Fairfield Vicinity Streams Solano	Fed 13,400 Non-Fed 22,000 Total 35,400	6,541	3,514	2,945	2,945
27D	Lower San Joaquin River and Tributaries (Snagging and Clearing Only)	Fed 9,800 Non-Fed 700 Total 10,500	4,098	1,041	2,000	2,000
28	Merced County Streams	Fed 65,600 Non-Fed 28,800 Total 94,400	5,300	3,602	1,100	1,100
29	New Melones Lake Calaveras, Tuolumne, Stanislaus	391,000	358,651	-	-	3,000
29B	Redbank and Fancher Creeks Fresno	Fed 51,900 Non-Fed 17,500 Total 69,400	2,635	4,500	11,300	11,300
31	Sacramento River Bank Protection	Fed 96,500 Non-Fed 41,400 Total 137,900	70,665	10,000	7,500	7,500
32	Sacramento River, Chico Landing to Red Bluff (No funds needed in FY 90)	31,000	11,372	-	-	-

CWC NO.	PROJECT & COUNTY		TOTAL FEDERAL COSTS	ESTIMATETD COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RECOMMENDATIONS
32A	Sacramento River Flood Control Project	Fed Non-Fed Total	102,225 105,900 208,125	72,110	3,485	1,600	1,600
34	San Luis Rey River San Diego	Fed Non-Fed Total	32,100 10,900 43,000	5,074	5,584	10,000	10,000
35	Santa Paula Creek Ventura (No funds needed in FY 90)	Fed Non-Fed Total	37,400 3,210 40,610	4,791	-	-	-
36	Sweetwater River San Diego	Fed Non-Fed Total	30,500 16,100 46,600	20,887	-	-	5,300
37	Walnut Creek Contra Costa	Fed Non-Fed Total	63,100 25,700 88,800	55,082	4,400	3,618	3,618
38	Wildcat and San Pablo Creeks Contra Costa	Fed Non-Fed Total	23,200 14,500 37,700	9,917	1,800	1,000	1,000
	Total - Corps of Engineers					$81,771	$95,771
BUREAU OF RECLAMATION PROGRAMS							
42	Sacramento River Division		363,314	301,335	5,231	6,325	6,325
47	Auburn-Folsom South Unit		2,123,244	343,233	1,700	1,700	1,700
50	San Luis Unit		1,338,883	530,413	24,732	5,428	5,428
60	Trinity River Restoration Program		299,691	253,273	11,642	12,280	12,280

CWC NO.	PROJECT & COUNTY		TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RECOMENDATIONS
61	Miscellaneous Project Programs (Where noted, the following component program amounts are included within the totals for the full program.)		662,838	625,925	*12,860	**7,850	***7,850
61-1	Delta Support Studies (In FY 89-90, $2,000 included in CWC 82, CVP Operations and Maintenance.)		-	-	*1,900	-	-
61-2	Suisun Marsh Preservation Agreement		-	-	*7,960	**3,340	***3,340
61-3	Temperature Control Device at Shasta Dam		-	-	*[illegible]000	**4,510	***4,510
62-1	San Felipe Division San Benito, Monterey, Santa Cruz		347,888	294,559	1,000	2,500	2,500
62-2	San Felipe Division- Watsonville Service Area		-	-	-	-	400
63	Bradbury Dam-Cachuma Project-Safety of Dams		50,000	-	100	100	100
64	Central Valley Project-Safety of Dams						
64-1	Little Panoche Dam		7,200	-	274	225	225
64-2	Los Banos Dam		14,400	-	77	675	675
64-3	O'Neill Dam		2,250	-	45	45	45
LOAN PROJECTS							
71	Santa Margarita (Lower Colorado Region) (Project not yet authorized)		-	-	-	-	Support
73A	San Bernardino County (Day Creek) Loan	Fed Non-Fed Total	13,412 25,000 38,412	1,150	3,102	9,160	9,160

CWC NO.	PROJECT & COUNTY		TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RECOMENDATIONS
73C	San Sevaine Creek Water Project San Bernardino, Riverside		-	-	-	-	Support
74A	Elsinore Valley MWD Riverside	Fed Non-Fed Total	25,975 13,619 39,594	4,529	10,625	10,821	10,821
76A	United Water Conservation District Ventura	Fed Non-Fed Total	18,156 826 18,982	6,909	5,000	6,247	6,247
	SPECIAL INVESTIGATIONS (Mid-Pacific Region)						
66A	Salinas Valley Basin Water Management Plan		-	-	-	-	180
79	Kellogg Unit-Central Valley Project Contra Costa		351	147	179	25	25
79A	Off Stream Storage		989	613	375	-	125
80	San Joaquin Valley Conveyance Study		1,531	1,356	150	25	250
80A	Delta Water Management Program		1,172	806	350	-	350
84	Environmental and Interagency Coordination Activities		Continuing	12,415	408	575	575
84A	Minor work in connection with completed projects		Continuing	178	24	25	25
84B	Technical Assistance to States		Continuing	801	175	250	250
84C	Investigation of Existing Projects		-	-	86	25	25
85A	Refuge Water Supply		1,037	416	75	25	92

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-89	COMMISSION'S FINAL RECOMMENDATIONS
	COLORADO RIVER SALINITY CONTROL PROJECT					
88	Paradox Valley Unit	82,566	43,521	7,693	2,461	2,461 1/
89	Grand Valley Unit	255,582	60,525	7,758	8,239	8,239 1/
90	Las Vegas Wash Unit	-	-	-	-	50 1/
90A	Lower Gunnison Basin Unit	30,151	29,901	250	-	5,000 1/
90B	Price-San Rafael Unit, Advance Planning	4,430	4,330	100	-	300 1/
91	Colorado River Water Quality Improvement Feasibility Investigations (Upper and Lower Basins)	52,829	48,518	1,185	1,235	1,235 1/
91A	Colorado River Basin Salinity Control Project - Title I ($171 in California)	483,527	332,367	17,027	19,060	19,060 1/
	OTHER PROGRAMS (Lower Colorado Region)					
94A	All American Canal-Demonstration Lining Project	2,400	-	1,840	560	560
96	Indian Wells Valley Ground Water Project Kern, San Bernardino, Inyo	525	-	155	175	175
97	Santa Ana Watershed Management Study (San Bernardino Ground Water Investigation)	500	122	113	-	200
98	Colorado River Front Work and Levee System ($1,300 in California)	156,113	53,242	12,071	8,400	8,400 1/

1/ For these projects the Commission adopted the position of the Colorado River Board.

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RECOMMENDATIONS
99	Minor Work on Completed Projects	Continuing	-	19	45	45
99A	Environmental and Interagency Coordination Activities	Continuing	8,880	168	500	500
99B	Technical Assistance to States	Continuing	420	70	194	194
99C	Investigation of Existing Projects	686	-	86	80	80
99D	Colorado River Recharge Imperial	280	-	150	100	100
99E	Vegetative Management-Colorado River San Bernardino, Riverside, Imperial	375	-	150	150	150
	OPERATIONS AND MAINTENANCE (Mid-Pacific Region)					
82	Operations and Maintenance Programs-Central Valley Project (Includes $2,000 for Delta Support Studies previously listed as CWC 61-1)	Continuing	-	48,959	54,765	54,765
82B	Cachuma Project	-	-	140	172	172
82C	Orland Project	-	-	133	133	133
82D	Solano Project	-	-	1,333	1,612	1,612
86	Land Resource Management Program	-	-	63	282	282
86A	Public Safety at Bureau Facilities	-	-	-	250	250
86B	Reclamation Law Administration	-	-	-	1,800	1,800

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/88	ALLOCATED FOR 1988-89	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RECOMMENDATIONS
	OPERATIONS AND MAINTENANCE (Lower Colorado Region)					
100	Reclamation Law Administration	-	-	-	206	206
100A	Parker Davis Project	-	-	923	1,251	1,251
100B	Public Safety at Bureau Facilities	-	-	-	600	600
100C	Yuma Area Projects (In California)	-	-	9,487	8,871	8,871
	Total - Bureau of Reclamation				$175,447	$182,344
	FISH AND WILDLIFE SERVICE					
107	Coleman National Fish Hatchery Shasta, Tehama (An additional $975,000 to be paid by local agencies.)	12,887	2,700	-	-	5,525
	INTERIOR/INDIAN AFFAIRS					
110	San Luis Rey Tribal Economic Development Trust Fund	30,000	-	-	5,000	5,000
	TOTAL - ALL PROGRAMS				$262,218	288,640

STATEMENT OF RAY BARSCH, GENERAL MANAGER, STATE RECLAMATION BOARD

Mr. BARSCH. Thank you Mr. Chairman.

Senator, I am Ray Barsch, general manager of the State Reclamation Board. I appreciate the opportunity to appear before you with the recommendations that were adopted by our board on March 17, 1989.

The board's final recommendations are in a statement which have been submitted. I would like to emphasize three projects that are not in the President's budget.

First the San Joaquin River system sediment investigation. The Reclamation Board is requesting $500,000 for the Corps of Engineers to identify the problems and potential solutions to deal with the sedimentation occurring on the San Joaquin River and bypass system.

Second, the Reclamation Board is requesting $360,000 for the Corps of Engineers to investigate the feasibility of what has been called riffle restoration at the Glenn-Colusa Irrigation District intake. The river changed during flood flows and has threatened the ability to divert water that irrigates over 150,000.

Third, Congressman Fazio, through the hearing process, has focused on the flood problems in the Sacramento area leading to the Corps of Engineers determination that levy restoration work is required; as Senator Wilson just said, that we need to get $3 million added to the funding for the Sacramento River flood control project in order to start construction in the summer of 1990.

Thank you.

[The statement follows:]

STATEMENT OF RAY BARSCH

THE RECLAMATION BOARD'S
RECOMMENDATIONS FOR
FEDERAL FLOOD CONTROL PROJECTS
1989-90 Summary in $1,000

Corps of Engineers' Projects	Page	Board Recommends	President Budget
I. Surveys			
A. Northern California Streams			
-- American River Watershed	1	265	265
-- Sacramento Metropolitan Area	1	375	375
-- Yuba River Watershed	2	375	375
-- Sac. R. Restoration at Glenn-Colusa ID	2	360*	0
B. Sacramento-San Joaquin Delta Inv.	2	400	400
C. San Joaquin River Basin			
-- Kings River - Pine Flat Dam	3	400	400
-- Tule River	3	90	90
-- Kaweah River	3	120	120
-- Calaveras River	3	300	300
-- San Joaquin River System-Sedimentation Investigation	3	500*	0
-- Mokelumne River and Tributaries	3	490	490
II. General Investigations (PE&D)			
A. Cache Creek Upper Basin	3	300	300
B. Caliente Creek	4	600	600
C. Dry Creek	4	320	320
III. Construction			
A. Cache Creek Settling Basin	4	5,500	5,500
B. Redbank and Fancher Creeks	5	11,300	11,300
C. Fairfield Vicinity Streams	5	2,945	2,945
D. Lower San Joaquin River and Tributaries	5	2,000	2,000
E. Merced County Streams	6	1,100	1,100
F. Sacramento River Bank Protection Proj.	6	7,500	7,500
G. Sacramento River Flood Control Project	6	4,600*	1,600
IV. Operations and Maintenance			
A. Inspection of Completed Works - Sacramento River Flood Control Project	7	900	900
U. S. Bureau of Reclamation Projects			
A. Auburn-Folsom South Unit	7	1,700	1,700

* This amount differs from President's budget

The Reclamation Board's Recommendations

The Reclamation Board, as the State agency which furnishes required local assurances for federal levee and channel projects in California's Central Valley, respectfully submits this statement of support for the following projects.

While all projects are important to the health, safety, and well-being of Central Valley residents, the surveys and projects described as follows are of particular importance to The Reclamation Board.

I. Surveys

A. Northern California Streams:

This survey, authorized in 1958 and 1962, is a study of the Sacramento River and its tributaries, in regard to flood control measures.

American River Watershed Investigation

The Corps completed a reconnaissance study in January of 1988 of alternate means of flood control in the American River watershed. This study provided information for all the interested agencies on the flood control for the Lower American River.

The Reclamation Board and the Department of Water Resources are acting as the local sponsor for the Feasibility Study which is scheduled to be completed in the Fall of 1990. The Feasibility Cost Sharing Agreement was signed in June, 1988. The nonfederal share is being funded by The Reclamation Board, the Department of Water Resources, Sacramento County, Placer County, Sutter County, City of Sacramento, Reclamation District 1000 and the American River Flood Control District.

There is still controversy on which project alternative should be constructed that will provide the present and future needs of the area. However, there is total agreement that the area needs added flood protection. The Reclamation Board supports $265,000 for this very critically needed investigation.

Sacramento Metropolitan Area Investigation

The investigation was initiated in the Spring of 1988. The Reclamation Board signed a letter of intent in June, 1988, to be the nonfederal sponsor for the feasibility study which is scheduled to begin in 1989. This study will identify the level of flood protection provided by the existing system and identify the need for additional protection. Because this area is adjacent to the area being studied under the American River Watershed investigation, these projects might be combined as the process moves forward. The Reclamation Board supports $375,000 for this investigation.

Yuba River Watershed

A one-year reconnaissance-level study of alternatives for flood control and related purposes in the Yuba River watershed should be completed by March 1990. The 1986 flood and the resulting levee failure made everyone aware that much more information is needed to provide a solution to the problems in this area. The Reclamation Board supports $375,000 to initiate the feasibility phase of the study.

Sacramento River Restoration at Glenn-Colusa Irrigation District

This project involves restoration of the hydraulic characteristics of the main channel of the Sacramento River. The Corps of Engineers is considering Engineering and Design of works to restore the elevation of the Sacramento River in the vicinity of the Glenn-Colusa Irrigation District intake to conditions existing prior to the flood of 1970. The Reclamation Board supports $360,000 for this investigation.

B. Sacramento-San Joaquin Delta Investigation:

Study area is located in Sacramento, Yolo, San Joaquin, Contra Costa, and Solano Counties and extends from the southern limits of the City of Sacramento, the City of Stockton and west to Suisun Bay. Area consists of about 700,000 acres of land segregated into some 100 tracts and islands, bounded by interconnecting waterways, which are confined by 1,100 miles of levees which normally prevent the lands from being inundated by high tides or high stages. Lands within these levees are among the most productive agricultural lands in the State. The survey considers flood control, associated recreation and environmental problems, Delta water transfer and salinity intrusion problems. A critical need for levee rehabilitation throughout the Delta exists.

Current activities include coordination with the U. S. Bureau of Reclamation and State Department of Water Resources to formulate the comprehensive plan. The Reclamation Board supports $400,000 for this investigation.

C. San Joaquin River Basin:

This survey, authorized in 1964 and initiated in 1968, encompasses the southern portion of the Central Valley, including part of the Delta-Central Sierra area and all of the San Joaquin and Tulare Lake Basins. The study will investigate the problems of flood control, irrigation, municipal water supply, power, recreation, fish and wildlife, and water quality. The study area is the site of many complex water supply and water transportation problems. Flooding is a major problem in the study area. During the severe floods of 1969, 1983, and 1986, the area experienced extensive damages. Projects to be considered include: dams and reservoirs, stream diversion, bank protection, and levee and channel improvement.

The San Joaquin River System - Sedimentation Investigation would be a new one-year reconnaissance-level study to investigate sources of sediment transported into the San Joaquin River between Friant Dam and the Delta, including the bypass system. Also, all the eastside tributary streams that bring flood waters and debris into this area would be investigated to determine what alternative solutions are available.

The Reclamation Board supports the following studies:

Kings River - Pine Flat Dam	-	$400,000
Tule River	-	90,000
Kaweah River	-	120,000
Calaveras River	-	300,000
San Joaquin System Sedimentation Investigation	-	500,000
Mokelumne River and Tributaries	-	490,000

II. General Investigations (PE&D)

A. Cache Creek Upper Basin:

The Corps of Engineers has completed its feasibility report regarding water resources development in the Cache Creek Basin. The report recommends enlarging the outlet channel of Clear Lake in the upper basin to reduce flooding of development around the Lake.

This report states that a major flood problem exists along the rim of Clear Lake. Historical inflows to the Lake temporarily raise the lake level causing significant damage to lakefront development. Serious flood damages

occurred in 1958, 1970, 1983, and 1986 causing estimated damages of $900,000, $500,000, $1,500,000 and $3,500,000, respectively.

The Sediment and Erosion Study was completed in March of 1988. The Study indicated that there will be a 10 percent increase in erosion with the project. Mitigation alternatives are being investigated. The Draft General Design Memorandum is scheduled for completion in April 1989.

The Board supports $300,000 for the plans and specifications for this project.

B. Caliente Creek:

The Corps of Engineers, in conjunction with their local sponsor, the Kern County Water Agency (KCWA), recently completed the feasibility study for consideration of flood protection measures on Caliente Creek. This study was cost-shared on a 50-50 basis between the Corps and KCWA. Past floods have caused serious damage and disruption to the communities of Arvin and Lamont and surrounding agricultural areas. The flood of March 1983 caused damages estimated at $25 million. The tentative selected plan includes a 16,000 acre-foot flood detention reservoir and downstream channel improvements to carry 500 cfs releases from the reservoir. The KCWA and other local representatives have been exceptionally supportive of developing flood control for this area.

The Reclamation Board supports $600,000 for preconstruction engineering and design for this project.

C. Dry Creek:

A feasibility report on Dry Creek was completed in January 1989. Funds for this study are being shared on a 50-50 basis with City of Roseville. Serious flooding occurred in Roseville and Rio Linda in February 1986 emphasizing the need for flood control measures in this area. The Board supports $320,000 to preconstruction engineering and design on this project.

II. Construction

A. Cache Creek Settling Basin:

The Corps of Engineers has completed its feasibility report for the Cache Creek Settling Basin. The report recommends enlarging and raising the levees around the existing Settling Basin to increase the Basin's sediment storage capacity. The Settling Basin is now full and is affecting the flood-carrying capacity of the Yolo Bypass. The current funding will be for the first year's construction.

The Board supports $5,500,000 to begin the construction of this project.

B. Redbank and Fancher Creeks:

The Corps of Engineers has completed its General Design Memorandum. The report recommends single-purpose flood control improvements on Redbank, Fancher, and Pup Creeks and Alluvial Drain; and dual-purpose flood control and recreation facilities on Big Dry Creek. The plan provides for enlargement of the existing Big Dry Creek Dam and Reservoir, a new dam on Fancher Creek, and detention basins on Redbank and Pup Creeks and Alluvial Drain.

The project was authorized for construction by the Water Resources Development Act of 1986, and The Reclamation Board supports $11,300,000 for this project.

C. Fairfield Vicinity Streams:

The project is located in the vicinity of the cities of Fairfield and Suisun in Solano County; the drainage basin comprises 45.8 square miles. There are five streams on which improvements are to be constructed. These are Ledgewood, Laurel, Union Avenue, Pennsylvania, and McCoy Creeks. The project as presented in the Corps of Engineers' Phase II GDM included channel improvements and diversion of three creeks, levees on two of the creeks, and construction of recreation facilities.

On May 29, 1986 The Reclamation Board signed the assurance agreement so that this project could move to construction. The first and second phase have been completed. Phase III is under construction. The Reclamation Board supports $2,945,000 for completion of this project.

D. Lower San Joaquin River and Tributaries:

The Lower San Joaquin River was authorized in 1944 and by the 1983 and 1988 Supplemental Appropriations Acts. The existing project completed in 1968 consists of channels, levees, and riverbank revetment from Friant Dam on the San Joaquin River to Stockton, a distance along the River of about 225 miles.

The needed work includes selective vegetative clearing and removal of debris and bars to improve flood carrying capacity of the San Joaquin River. Initial work in the Eastside Bypass has been done which was identified as an emergency situation. The next phase of the work will be covered in a joint EIS-EIR, which is being reviewed at this time.

The Reclamation Board supports $2,000,000 for the San Joaquin River clearing and snagging project.

E. Merced County Streams:

This project, authorized in 1970, will provide flood protection for Castle Air Force Base, the City of Merced, and adjacent suburban and agricultural lands. The assurance agreements have been signed and construction should begin in 1989.

The Reclamation Board supports $1,100,000 for this project.

F. Sacramento River Bank Protection Project:

The project, authorized in 1960, is a long-range Federal-State effort, aimed at preserving the existing project levee system of the Sacramento River. These existing levees, offer flood protection along 192 miles of the Sacramento River between Collinsville (in the Delta) to Chico Landing. The Sacramento River Bank Protection Project work consists of providing some form of bank stabilization at those points which are identified each year as the most critical.

The Reclamation Board supports $7,500,000 for construction of the Sacramento River Bank Protection Project.

G. Sacramento River Flood Control Project:

This project was authorized in 1917 and modified by various Flood Control and/or River Harbor Acts in 1928, 1937, and 1941.

The project comprises a comprehensive system of levees, overflow weirs, drainage pumping plants, and flood bypass channels, extending along the Sacramento River from Collinsville to Chico Landing.

The $1,600,000 in the President's Budget is necessary to complete three items: 1. construction of the cross levee on Cache Slough; 2. final design for the Colusa Basin Drain; and, 3. finish design for the levee restoration work on 32 miles of levee in the Sacramento metropolitan area.

A request for an additional $3,000,000 would allow reconstruction of the 32 miles of the 110 miles of levees which protect the Sacramento urban area to begin in the 1990 construction season. The Reclamation Board supports $4,600,000 for this program.

IV. Operations and Maintenance

A. Inspection of Completed Works - Sacramento River Flood Control Project:

The Reclamation Board is concerned about the long-term integrity of the Sacramento River Flood Control System. The project is an integral part of the State's flood control plan and protects over one million people and billions of dollars in property. A break in the project levee on the Yuba River flooded thousands of homes in February 1986, and other areas within the project were seriously stressed. The Board agrees with the Corps that it is time to consider the future of this project and the necessary measures required to sustain it as a viable, cost-effective, flood control system for the next 50 to 100 years.

This geotechnical work performed by the Corps of Engineers determines where design deficiencies exist within the levee system. The Reclamation Board supports $900,000 for this phase of the program to prepare initial appraisal studies for 250 miles of levees in the Sacramento River Flood Control Project levee system.

U. S. Bureau of Reclamation Projects

A. Auburn-Folsom South Unit:

Auburn Dam, part of the Central Valley Project, was authorized in 1965. Auburn Dam and Reservoir site is located on the North Fork of the American River adjacent to the City of Auburn. The present downstream Folsom Dam and levee system do not provide adequate flood protection. This project will provide additional flood protection to the Sacramento area. The Reclamation Board supports $1,700,000 for this program.

PREPARED STATEMENT OF GEORGE D. MC KEON

Mr. HILL. Thank you.

Mr. George McKean, president of Kings River Conservation District has filed his statement.

[The statement follows:]

STATEMENT OF THE KINGS RIVER CONSERVATION DISTRICT

My name is George D. McKean and I am President of the Board of Directors of the Kings River Conservation District. I am appearing today in support of the continued funding of the Pine Flat Dam, Kings River study being conducted by the Corps of Engineers.

My purpose before the Committee is to request that funds be retained in the Fiscal Year 1989-90 budget in an amount not less than $400,000, as currently provided in the President's Budget.

Purpose and Authority

The purpose of the Pine Flat Dam, Kings River study is to evaluate the economic feasibility of raising the height of the existing Pine Flat Dam to provide additional storage capacity in Pine Flat Reservoir for water conservation, flood control and other benefits. The study is being conducted under the 1944 Flood Control Act, P.L.78-534.

Background

The existing Pine Flat Dam is a multipurpose concrete-gravity structure, 429 feet high and 1820 feet long, completed in 1954 by the U.S. Army Corps of Engineers. The construction of Pine Flat Dam was authorized by the 1944 Flood Control Act, P.L. 78-534. The reservoir has a capacity of 1,000,000 acre-feet at gross pool and extends about 20 miles upstream from the dam. The reservoir area covers about 6,000 acres. The Dam is located on Kings River approximately 23 miles east of Fresno, California.

Pine Flat Dam regulates irrigation water and provides flood protection to the Kings River service area of the Kings River Conservation District.

This service area, located below Pine Flat Dam to the southwest, is part of the San Joaquin Valley in central California. Bounded by the San Joaquin River to the north, by an area just west of Fresno Slough to the west and by the south rim of Tulare Lake Basin to the south, it includes the cities of Fresno, Clovis, Hanford, Corcoran, Selma, Fowler, Kingsburg, Sanger and Dinuba and surrounding lands in the foothills of the Sierra Nevada to the east.

Developments within the Kings River Basin began in 1951, with the start of construction of Pine Flat Dam. On the North Fork Kings River, the Pacific Gas and Electric Company constructed reservoirs and related hydroelectric facilities in the late 1950's.

Existing recreation facilities along the shoreline of Pine Flat Reservoir were jointly developed by the Corps of Engineers and the U.S. Forest Service. These include boat launch marinas, camping sites and picnic grounds. Along the stretch of the Kings River immediately below Pine Flat Dam are three recreation areas. The Pine Flat Recreation Area contains 174 acres; Choinumni Park, 170 acres and Winton Recreation Area, 26 acres. They are all operated by the Fresno County Parks and Recreation Department.

Additional Need

Pine Flat Dam and Reservoir have provided substantial benefits to the Kings Rivers Conservation District service area in the form

of flood control, water conservation and recreation. However, even with the 1,000,000 acre-feet of storage capacity provided by Pine Flat Reservoir, the average annual loss of irrigation water due to flood releases from Pine Flat Reservoir is 218,000 acre-feet. In addition to the loss of water, these heavy flood releases cause flooding and seepage problems downstream of Pine Flat Dam. If found to be feasible, the raising of Pine Flat Dam would provide additional water conservation and flood control benefits to the service area.

Study Status

The Corps of Engineers are currently conducting a reconnaissance level feasibility study of raising Pine Flat Dam by approximately 20 feet.

This increase in the height of Pine Flat Dam would increase the storage capacity of Pine Flat Reservoir by 120,000 acre-feet. The reconnaissance level study for this project was started in March of 1988 and is scheduled for completion by September 30, 1989. The next step will be for the Corps of Engineers to begin full feasibility studies during fiscal year 1989-90.

Appropriations

An appropriation of $250,000 was included in the budget for Fiscal Year 1988-89 and will be sufficient funding through September 1989. The President's Budget for Fiscal Year 1989-1990 contains $400,000 for this study, which will be sufficient funding for the Corps of Engineers to begin full feasibility studies during fiscal year 1989-90.

Mr. Chairman, I appreciate the privilege of appearing before the Committee and respectfully urge your support and ask that my statement be made a part of the hearing record.

MERCED COUNTY STREAMS, CALIFORNIA

STATEMENT OF TIM McCULLOUGH, CONSULTANT, MERCED COUNTY ASSOCIATION OF GOVERNMENTS

PREPARED STATEMENT

Mr. HILL. The next witness is Mr. Tim McCullough, of the Merced County Association of Governments.

Mr. MCCULLOUGH. Senator Reid I am here on behalf of Supervisor Doug Davenport who has appeared before this committee in the past. He sends with me his warm regards to this committee and thanks them for the continued support they have expressed toward the Merced County streams project, and again requests that they support the appropriation $1.1 million for a general construction through the Corps of Engineers.

Thank you for your time and I would request that the testimony of Supervisor Davenport be read into the record.

[The statement follows:]

STATEMENT OF WYATT DAVENPORT, SUPERVISOR, MERCED COUNTY, CA

Once again I would like to express my appreciation for the opportunity to appear before your Committee in support of the Merced County Streams Project. My name is Wyatt Davenport, Supervisor of District Number One, Merced County Board of Supervisors, Merced County, California. My colleagues have asked me to travel here today and express our sincere gratitude for your continued support of the Merced County Streams Project. Much has taken place in the furtherance of providing flood protection for my district since I last appeared before you: 1) the State of California and the U.S. Corps of Engineers have executed local cooperation agreements, 2) Merced County and the State of California have reached agreement on distribution of local cost sharing and operation and maintenance requirements, and 3) we have been assured by the COE that they are well along on finalizing design of the Castle Dam Unit and will have that unit under construction by late spring. To assure finalization of this project we will again need your Committee support by recommending the inclusion of $1,100,000 in the FY 89/90 budget.

Although the County of Merced together with the State of California is the project local sponsor, we are joined by the City of Merced, the Merced and El Nido Irrigation Districts, and the Le Grand-Athlone Water District in supporting this all important project.

The Merced County Streams Project is a modification and expansion of an earlier flood project constructed between 1948 and 1957. It has undergone considerable review and modification since first authorized as part of the Flood Control Act of 1970. Approximately $9,000,000 has been spent to date on planning and design by the Corps of Engineers. As true partners in financing the construction of this project we have worked closely with the Corps to establish an economic balance between benefits and costs. As a result of our combined effort to maximize project cost effectiveness, non-essential project components were first scaled back, then totally eliminated . This scaling of the project to fit the economic realities of the community has resulted in substantial savings to both federal and local participants.

Federal authorization for project construction was granted as part of the Supplemental Appropriations Act of 1985. This authorization limits construction to facilities on Canal (Castle Dam) and Black Rascal Creeks (Haystack Mountain Dam), enlargement of Bear Creek Dam and modification of levies and channels along approximately 33.4 miles of Fahrens, Black Rascal, Cottonwood, and

Bear Creeks. When completed the project will provide flood protection worth approximately $8,021,000 per annum to 55,000 acres of urban and agricultural lands. Total project cost is approximately $90,710,000, of which $28,155,000, or roughly 31%, will be paid by the local beneficiaries, during construction.

When completed 60,000 residents of metropolitan Merced will live with the assurance of 125 year flood protection, while the lower rural area will receive twenty-five year protection. Castle Air Force Base, a major installation of the Strategic Air Command will in addition benefited through the establishment of a local storm run-off discharge capability in adjacent streams. Partial protection to the Base is currently provided by diverting Base run-off into the canal system of the Merced Irrigation District. This practice has not only caused past damage to the District's water distribution system, but has added to the threat of flooding to adjacent communities. This practice will be discontinued.

Agricultural productivity within the project flood plane is devoted to orchards, vines, and row crops. This area represents some of the finest irrigated agricultural land of California's San Joaquin Valley. Farm are predominately single family, and pride themselves on being self reliant. Less than 2% of the flood plain is devoted to growing subsidized crops. Water storage and irrigation works were planned, constructed and are operated without federal assistance.

Representatives of Merced County have stood before you many times in the past, seeking your support. Together we have completed the arduous task of Phase I and Phase II planning. It is now time for us to take the next step, that of construction. In order for us to do this, your support is again needed.

Earlier this year the California Water Commission voted to recommend supporting a federal FY 89/90 budget request in the amount of $1,100,000 for the Merced County Streams Project. This coincides with the amount requested by the President. We ask that you again show your support by requesting that $1,100,000 be placed in the U.S. Army Corps of Engineers Fiscal 89/90 projects budget for continuing construction of the Merced County Streams Project.

Thank you,

SWEETWATER RIVER, CA, FLOOD CONTROL PROJECT

STATEMENT OF GREGORY R. COX, MAYOR, CHULA VISTA, CA

Mr. HILL. Thank you very much.

Our next witness is Mayor George R. Cox of the city of Chula Vista.

Mr. Cox. Thank you, Mr. Chairman.

The Sweetwater flood control project is a project that was authorized by Congress in 1968. In 1983 it started construction. Midcourse in the construction it was stopped because of some litigation, that was in July 1987. And that litigation was resolved in August of last year.

The reason that there was no money included in the President's budget this year for this particular project was strictly because of that litigation. It just got resolved too late in the process. What we are hopeful is that $5.3 million can be added into the President's budget for this project.

It will take $1.8 million the following year in order to complete this. It is about two-thirds completed now; a very important project for the city of Chula Vista, the city of National City in the County of San Diego. And there are resolutions attached to my comments that have been prepared for you from those various agencies.

We would just ask your consideration to complete this project in a timely manner. There is a freeway project that is tied into it that will be done in the next 2 years, and it would be nice to get all of these projects finished at one time.

Thank you.

[The statement follows:]

STATEMENT OF GREGORY R. COX, MAYOR, CHULA VISTA, CA

The Sweetwater River Flood Control Project is part of a combined highway and flood control program to relieve flooding in the lower Sweetwater River Valley, and provide improvements to freeways in the region. The plan for the channel improvement project was approved August 13, 1968, by Act of Congress, Public Law 483, 90th Congress, 2d session.

The principal features of the flood control portion of the combined highway and flood control program include:

-The construction of about 3.2 miles of trapezoidal channel with earth bottom and riprap side slopes generally occupying the median strip between east and west lanes of State Route 54.
-The construction of five highway bridges, one recreation bridge, two utility bridges and side drainage facilities.
-The relocation of utilities.

Litigation regarding an issue on marshland preservation by the Sierra Club caused construction delays and the overall project budget was increased significantly over the original funding. CalTrans will be bidding the last phase of highway construction in July 1989. That work will not include construction of the flood control channel. The funding for the completion of the highway work is in the State Transportation Improvement Program, but the specific work has not as yet been approved by the California Transportation Commission.

The flood control improvements to date provide 30-50 year flood protection which would provide less protection for the existing urban land uses from major flooding than the project as originally designed. It is estimated that there is a need for $5.3 million in 1990 and $1.8 million in 1991 to complete the flood control portion of the project. We need this important link in the project to provide protection from the 100 year flood and to minimize the costs to our citizens for flood insurance and potential flood damage.

At the March 3, 1989 meeting of the California Water Commission, there was a unanimous vote to recommend that the FY-90 Budget be amended to include funding in the amount of $5.3 million for the Sweetwater River Flood Control Project.

The City of Chula Vista, the City of National City and the County of San Diego have adopted Resolutions of Support for this project. Your support is needed for this vital project.

RESOLUTION NO. 14016

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CHULA VISTA SUPPORTING THE CALIFORNIA WATER COMMISSION'S RECOMMENDATION TO SUPPORT THE ALLOCATION OF $5.3 MILLION TO THE FEDERAL FY 1990 BUDGET FOR THE SWEETWATER FLOOD CONTROL PROJECT

The City Council of the City of Chula Vista does hereby resolve as follows:

WHEREAS, the Sweetwater River Flood Control Project is part of a combined highway and flood control program to relieve flooding in the lower Sweetwater River Valley, to widen Interstate Route 5, and to construct State Route 54 between Interstate Routes 5 and 805, and

WHEREAS, the plan for the channel improvement project was originally approved August 13, 1968 by Act of Congress, Public Law 483, 90th Congress, 2d Session, and

WHEREAS, the project will protect heavily urbanized areas from flooding and result in the acquisition and conservation of 188 acres of marshland, and

WHEREAS, it is estimated that there is a need for $5.3 million dollars in 1990, and $1.8 million in 1991 to complete the flood control portion of the project, and

WHEREAS, the California State Water Commission, at its March 3, 1989 meeting, unanimously took action to recommend to the Federal Government that funding in the amount of $5.3 million be included in the federal budget for FY 89/90 for the Sweetwater Flood Control Project.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Chula Vista supports the California State Water Commission's recommendation for continued funding for the Sweetwater Flood Control Project in FY 1990.

Presented by

Gregory R. Cox

Gregory R. Cox, Mayor

Approved as to form by

Ruth M. Fritsch

Ruth M. Fritsch, Deputy City Attorney

RESOLUTION NO. 15,905

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NATIONAL CITY SUPPORTING THE CALIFORNIA WATER COMMISSION'S RECOMMENDATION TO SUPPORT THE ALLOCATION OF $5.3 MILLION TO THE FEDERAL FY 1990 BUDGET FOR THE SWEETWATER FLOOD CONTROL PROJECT AND RESCINDING RESOLUTION NO. 15,895

The City Council of the City of National City does hereby resolve as follows:

WHEREAS, the Sweetwater River Flood Control Project is part of a combined highway and flood control program to relieve flooding in the lower Sweetwater River Valley, to widen Interstate Route 5, and to construct State Route 54 between Interstate Routes 5 and 805, and

WHEREAS, the plan for the channel improvement project was originally approved August 13, 1968 by Act of Congress, Public Law 483, 90th Congress, 2d Session, and

WHEREAS, the project will protect heavily urbanized areas from flooding and result in the acquisition and conservation of 188 acres of marshland, and

WHEREAS, it is estimated that there is a need for $5.3 million dollars in 1990, and $1.8 million in 1991 to complete the flood control portion of the project, and

WHEREAS, the California State Water Commission, at its March 3, 1989 meeting, unanimously took action to recommend to the Federal Government that funding in the amount of $5.3 million in included in the federal budget for FY 89/90 for the Sweetwater Flood Control Project.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of National City does hereby support the California Water Commission's recommendation for continued funding for the Sweetwater Flood Control Project in FY 1990.

BE IT FURTHER RESOLVED that Resolution No. 15,895 is hereby rescinded.

PASSED and ADOPTED this 14th day of March, 1989.

GEORGE H. WATERS, MAYOR

ATTEST:

LORI ANNE PEOPLES, CITY CLERK

APPROVED AS TO FORM:

GEORGE H. EISER, III-CITY ATTORNEY
By: LINDA KAYE HARTER, Asst. City Attorney

NO. 97 TUESDAY, MARCH 28, 1989

RESOLUTION OF THE COUNTY OF SAN DIEGO SUPPORTING THE CALIFORNIA WATER COMMISSION'S RECOMMENDATION TO SUPPORT THE ALLOCATION OF $5.3 MILLION TO THE FEDERAL FY 1990 BUDGET FOR THE SWEETWATER FLOOD CONTROL PROJECT AND RESCINDING RESOLUTION

On motion of Supervisor Bilbray, seconded by Supervisor Bailey, the following resolution is adopted:

The San Diego County Board of Supervisors does hereby resolve as follows:

WHEREAS, the Sweetwater Flood Control Project is part of a combined highway and flood control program to relieve flooding in the lower Sweetwater River Valley, to widen Interstate Route 5, and to construct State Route 54 between Interstate Routes 5 and 805, and

WHEREAS, the plan for the channel improvement project was originally approved August 13, 1968 by Act of Congress, Public Law 483, 90th Congress, 2d Session, and

WHEREAS, the project will protect heavily urbanized areas from flooding and result in the acquisition and conservation of 188 acres of marshland, and

WHEREAS, it is estimated that there is a need for $5.3 million dollars in 1990, and $1.8 million in 1991 to complete the flood control portion of the project, and

WHEREAS,, the California State Water Commission, at its March 3, 1989 meeting, unanimously took action to recommend to the Federal Government that funding in the amount of $5.3 million be included in the federal budget for FY 89/90 for the Sweetwater Flood Control Project.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the County of San Diego does hereby support the California Water Commission's recommendation for continued funding for the Sweetwater Flood Control Project in FY 1990.

PASSED AND ADOPTED by the Board of Supervisors of the County of San Diego, State of California, this 28th day of March, 1989 by the following vote:

AYES: Supervisors Bilbray, Bailey, Golding and MacDonald
NOES: Supervisors None
ABSENT: Supervisor Williams

STATE OF CALIFORNIA)
County of San Diego) ss.

I, KATHRYN A. NELSON, Clerk of the Board of Supervisors of the County of San Diego, State of California, hereby certify that I have compared the foregoing copy with the original resolution passed and adopted by said Board, at a regular meeting thereof, at the time and by the vote herein stated, which original resolution is now on file in my office; that the same contains a full, true and correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of said Board of Supervisors, this 29th day of March, 1989.

KATHRYN A. NELSON
Clerk of the Board of Supervisors
By Esther C. Ryan
Deputy

(SEAL)

San Luis Rey River, CA

PREPARED STATEMENT

STATEMENT OF LARRY BAGLEY, MAYOR, OCEANSIDE, CA

Mr. HILL. Thank you very much.

Our next witness is Mayor Larry Bagley, city of Oceanside.

Mr. BAGLEY. Thank you Mr. Chairman.

We have submitted written testimony in support of the President's budget of $10 million for the San Luis Rey project. I would just like to say that since the initial appropriation 3 years ago, the city has worked with the Corps of Engineers and with the property owners to reduce this project cost by some $2 million. And we are certainly willing to work with the property owners and the Corps in the future for further reductions.

We do appreciate the committee's support on this and we thank you for your attention.

[The statement follows:]

STATEMENT OF LARRY M. BAGLEY

The City of Oceanside owes the Committee a tremendous debt of gratitude for your assistance in bringing the San Luis Rey River Flood Control Project to fruition. I am here today to request your continuing support for $10 million to complete the third year of project contstruction, as recommended in the Administration's budget.

I am happy to report that the project now under construction represents a vast improvement over the earlier authorized design. Two segments of levee have been added along the north side of the river, creating double-levee protection along most of the channel. Land requirements have been reduced by over 81 acres, and three holding ponds have been reconfigured to better meet the needs of property owners and the City. Furthermore, these modifictions have improved the environmental habitat values of the project. At the same time, project costs have been reduced by $2 million.

So it is not surprising that the San Luis Rey River Flood Control Project now has even broader support in our community. Over 4,000 homes and businesses will be protected from flooding, and relieved of costly flood insurance premiums. In addition, project right-of-way requirements are being more equitably spread among affected landowners.

The City of Oceanside has a great deal of pride in the partnership which we have forged with the Federal government in bringing about this project. I respectfully request the Committee's support of the Administration's proposal for the San Luis Rey River Flood Control Project.

ADDITIONAL PREPARED STATEMENT SUBMITTED FOR THE RECORD

Mr. HILL. Thank you very much.

Next, Mayor Sheila Lodge, the city of Santa Barbara, has submitted her statement. She is in the audience.

[The statement follows:]

STATEMENT OF SHEILA LODGE, MAYOR, SANTA BARBARA, CA

Dear Committee Members:

The Santa Barbara City Council respectfully requests your support for a $550,000 appropriation presently proposed by the U.S. Army Corps of Engineers in the Fiscal Year 1989-90 budget. This appropriation will allow preliminary design to begin on a very worthwhile and much needed flood control and channelization project in the City of Santa Barbara.

The Corps of Engineers has completed a Feasibility Report and Environmental Impact Statement for lower Mission Creek which has fully documented a severe and chronic flooding problem which can be solved by the channelization of Mission Ceek with a project which considers and mitigates sensitive environmental areas.

Mission Creek presently overtops its banks on the average, once every three years, causing damage and disruption to the residential and business community of Santa Barbara. Approval of funding for preliminary design of this project will be a big step towards solving a long standing flooding problem.

Your assistance in voting for this project will be appreciated.

SAN JOAQUIN CONVEYANCE STUDY

PREPARED STATEMENT

STATEMENT OF GEORGE D. McKEAN, CHAIRMAN, MID VALLEY WATER AUTHORITY

Mr. HILL. Next is Mr. George McKean, chairman of the Mid Valley Water Authority.

Mr. MCKEAN. Mr. Chairman, my name is George McKean, chairman of the Board of Directors of the Mid Valley Water Authority. With me today are Richard Schafer, Jeff Taylor, and Melissa Mostert, who are the work horses of this organization.

My written statement has been submitted and I hope would be in the record. We request that the subcommittee allocate $250,000 for the San Joaquin Valley Conveyance Investigation; and $125,000 for the Off Stream Storage studies to continue, so that we can continue the orderly development of the Mid Valley project.

Thank you for your time.

[The statement follows:]

STATEMENT OF GEORGE D. MC KEAN

My name is George D. McKean and I am Chairman of the Board of Directors of the Mid-Valley Water Authority. I am appearing today in support of the continued funding of the Bureau of Reclamation planning study identified in prior budgets as the San Joaquin Valley Conveyance Study. This study has been funded for several years and is nearing completion.

My purpose before the Committee is to request that funds be included in the Fiscal Year 1989-90 budget in an amount not less than $250,000. Without these funds, we will not be able to continue the orderly development of the Mid-Valley Canal Project.

PURPOSE AND AUTHORITY

The purpose of the San Joaquin Valley Conveyance Investigation is to evaluate the economic feasibility of alternative routings of conveyance (canal) facilities for the importation of additional CVP water supply into the Valley for alleviation of the existing 1.0 million acre-feet of groundwater overdraft. The study has as a corollary objective enhancement of fish and wildlife resources.

The study is being conducted in cooperation with the State of California, Department of Water Resources and the Mid-Valley Water Authority.

The San Joaquin Valley Conveyance Investigation is being conducted under the East Side Division Authorization Act of September 7, 1964, P.L. 89-561 and was initiated in October, 1984.

STUDY AREA

The study area lies within the San Joaquin Valley covering portions of Merced, Madera, Fresno, Tulare, Kings and Kern Counties and contains approximately 3-million acres.

STUDY STATUS

A Status Report of the San Joaquin Valley Conveyance was released by the Bureau of Reclamation in December, 1986. The Report identified seven (7) alternative projects for the delivery of 550,000 acre-feet per year of supplemental water supply to the Valley. The water supply was composed of 300,000 a.f. of firm yield and 250,000 a.f. of interim project water until year 2020. Intermittent project water supply would also be phased into the project with an average annual quantity of 125,000 a.f.

The selected alternative utilizes available capacity in the California Aqueduct from the Delta to O'Neill Forebay, enlarges the existing Delta-Mendota Canal from O'Neill Forebay to the Mendota Pool and provides for the construction of two new canals from Mendota Pool. The North Branch (500 cfs) would be constructed from the Mendota Pool to the Chowchilla River and the Main Branch (1500 cfs) would be constructed from the Mendota Pool to the White River with alignment near State Highway 99. The initial phase, Main Branch from the Mendota Pool to the Kings River at Highway 99, would cost about $200 million.

The Bureau of Reclamation has projected the issuance of a draft feasibility/EIS report for the San Joaquin Valley Conveyance Investigation by mid-June, 1989. The recommended plan of the report will identify a staged construction of new CVP facilities.

LEGISLATION

On January 31, 1989, Congressmen Lehman, Pashayan, Coelho and Thomas re-introduced legislation (HR 738) to authorize the construction of the Mid-Valley Unit of the Central Valley Project and it is anticipated that Senators Cranston and Wilson will introduce identical legislation in the Senate.

APPROPRIATIONS

General investigation funds for the Bureau of Reclamation included $150,000 for the San Joaquin Valley Conveyance Investigation during fiscal year 1989 to continue the orderly development of planning for all stages of the proposed project, and additional advanced planning funds will be needed by the Bureau during fiscal year 1989-90. The President's budgeted amount of $25,000 is inadequate and we request support of $250,000.

I appreciate the privilege of appearing before the Committee and respectfully urge your support and ask that my statement be made a part of the hearing record.

My name is George D. McKean and I am chairman of the Board of Directors of the Mid-Valley Water Authority. I am appearing today in support of the Offstream Storage study being conducted by the Bureau of Reclamation. This study has been funded in prior years, but was not allocated funds in the President's budget for Fiscal Year 1989-90.

My purpose before the Committee is to request that $125,000 be included in the FY 1989-90 budget. Without these funds, we will not be able to continue the orderly development of the Offstream Storage Project.

PURPOSE

The purpose of the Offstream Storage Investigation is to define one or more offstream water storage sites in the San Joaquin or Sacramento Valleys that will provide additional firm CVP water supply and increase the flexibility of current and future water delivery systems consistent with operations of the Central Valley Project and the State Water Project.

The U.S. Bureau of Reclamation (USBR) is working jointly with the California Department of Water Resources (DWR) and the U.S. Army Corps of Engineers (USACOE) in the development of the Offstream Water Storage Study. The DWR will provide 50-percent of the costs of the study with in-kind services.

APPROPRIATIONS

General Investigation funds for the Bureau of Reclamation included $475,000 for the Offstream Storage Investigation during fiscal year 1989 but no funds have been included in the 1990 budget.

The Bureau needs $50,000 during fiscal year 1989-90 to prepare a final report of their findings. In addition the Bureau needs $75,000 during fiscal year 1989-90 for continuation of their studies on joint participation with DWR in the Los Banos Grandes offstream reservoir. Therefore, we request a total appropriation of $125,000 during fiscal year 1989-90 for the Offstream Storage Studies.

I appreciate the privilege of appearing before the Committee and respectfully urge your support and ask that my statement be made a part of the hearing record.

TEHAMA-COLUSA CANAL, CUP, CALIFORNIA

STATEMENT OF JOHN CAMPBELL, MANAGER, TEHAMA-COLUSA CANAL AUTHORITY

Mr. HILL. Thank you.

Next is Mr. John Campbell, manager, the Tehama-Colusa Canal Authority.

Mr. CAMPBELL. Thank you.

The Tehama-Colusa Canal Authority assumed operation of the Tehama-Colusa and the Corning canals, which are Federal facilities. And we assumed operation of those during November 1988.

This is our first year of operation. Our operation and maintenance funds are in the bureaus operation and maintenance budget. And we are asking your support of the $54,760,000 in the President's operation and maintenance budget of the Central Valley Project.

PREPARED STATEMENT

Along with this there is something like $2 million for delta support studies, which we also support. I would like to thank this committee for its support in the past for canal and distribution system construction.

[The statement follows:]

STATEMENT OF JOHN C. CAMPBELL

Mr. Chairman, in October of 1988, the United States Department of Interior, Bureau of Reclamation entered into a cooperative agreement with the Tehama-Colusa Canal Authority for the transfer of the responsibility for the operation and maintenance of the Tehama-Colusa and Corning Canals to the water users. These canal service areas, units of the Central Valley Project, have been operated by the Tehama-Colusa Canal Authority since November of 1988.

It is the intention and goal of the Tehama-Colusa Canal Authority to operate and maintain these canal systems in an efficient and cost effective manner and to seek and support adequate funding for this and other elements of the Central Valley Project. Although the Tehama-Colusa Canal Authority lacks a full years experience in operating within its own budget for the 1988-1989 fiscal year our expense projections for 1988-1989 indicate that we are well within our budget limitations.

The Tehamam-Colusa Canal Authority is concerned that inadequate appropriations for Operation and Maintenance of these canal systems might well make it impossible to operate either the Tehama-Colusa or the Corning Canal. We are further concerned that delays in funding much needed canal maintenance could well result in deterioration that would effect the ability to deliver irrigation water.

The funding needed for the Tehama-Colusa Canal Authority operation and maintenance in the amount of $1,197,000 is contained within the $54,765,000 for the Bureau of Reclamation Operations and Maintenance Programs-Central Valley Project in the President's Budget. The Tehama-Colusa Canal Authority fully supports the $54,765,000 and respectfully requests your approval of the President's request and the California Water Commission's recommendations.

The people in the service areas of the Tehama-Colusa and Corning Canals are deeply appreciative of the past assistance given by your committe for appropriations for canal and distribution system construction and operation and maintenance.

AUBURN-FOLSOM SOUTH UNIT, CUP, CALIFORNIA

PREPARED STATEMENT

Mr. HILL. Thank you, John. Our next, Mr. John Freshman, representing East Bay Municipal Utility District has filed his statement.

[The statement follows:]

STATEMENT OF EAST BAY MUNICIPAL UTILITY DISTRICT

The East Bay Municipal Utility District, which supplies water for municipal and industrial purposes to 1.1 million people in a 300 square-mile area of Alameda and Contra Costa Counties, on the eastern side of San Francisco Bay, supports the California Water Commission's recommendations regarding appropriations for Federal Flood Control and Water Programs in California for fiscal year 1989-90.

Specifically, the District urges appropriation for the following project (reference California Water Commission Summary dated March 10, 1989).

No. 47 Auburn-Folsom South Unit $1,700,000

The District has a twofold interest in the completion of the Auburn-Folsom South Project: first, as a contractor for project water; and second, as an indirect beneficiary of water imported to that portion of the Folsom South service area which lies downstream from the District's primary water source reservoirs in the Mokelumne River basin.

Extensive groundwater pumping in the vicinity of the lower Mokelumne River is causing substantial seepage loss, much of which must be replaced by releases of water stored by East Bay Municipal Utility District for its own use. As these seepage losses increase, the dependable yield of the District's Mokelumne River Project is reduced proportionately. Since the Mokelumne River Project supplies more than 90 percent of the District's water, the project yield is of major concern.

For more than thirty years, the expected solution to this problem has been an imported surface supply from the Auburn-Folsom South Project. The agricultural interests along the lower Mokelumne River have also looked to this project to meet their long-term water requirements. Currently the District provides storage, on an interim basis, to these agricultural interests. Without the Auburn-Folsom South Project, their water requirement will eventually have to be met from groundwater. Since the groundwater basin is already classified as critically overdrafted, increased pumping on that basin can only result in accelerated decline in the groundwater table. This consequence could prove disastrous to agriculture and the local communities.

The U. S. Bureau of Reclamation has begun the environmental documentation necessary to resume long-term contracting of available and uncommitted water from the Central Valley Project (CVP). Agencies and cities within the American River Service Area have made requests for 610,000 acre-feet of water per year from the CVP. Of this amount, 270,000 acre-feet has been requested by agencies within San Joaquin County. The City and the County of Sacramento are planning to use almost 500,000 acre-feet of American River water each year.

The District believes it is most important that the Auburn-Folsom South Unit of the Central Valley Project be constructed at the earliest possible date. Auburn Dam, when completed, will significantly reduce the likelihood of flooding in the Sacramento area. Auburn would also provide additional storage to maintain the downstream flow requirements established for the lower American River by the State Water Resources Control Board. California has long taken pride in its multi-purpose water facilities. Since there are a variety of beneficial uses which can best be met in the future by a multi-purpose facility at

Auburn, the project should not be structured in a manner which precludes future water storage, power production, recreational use, etc.

For the above reasons, East Bay Municipal Utility District seeks your Committee's support for this project.

San Francisco Bay Delta Studies

STATEMENT OF JOHN DeVITO, EXECUTIVE DIRECTOR, CONTRA COSTA WATER DISTRICT

PREPARED STATEMENT

Mr. Hill. Our next is Mr. John DeVito, executive director, Contra Costa County Water District.

Mr. DeVito. Mr. Chairman, it is essential that the appropriation request of the California Water Commission for protection of water quality in the Sacramento-San Joaquin delta be favorably considered; simply because Bureau of Reclamation and State of California records show that each year, of the 6 million acre-feet that is diverted from that delta about 84 percent, 5 million goes to the irrigated crops of the valley and about 14 percent goes to municipal, industrial, and agricultural uses of the basin.

Higher water quality means lesser water quantities for leeching purposes, releasing water for industrial process. Thank you for this opportunity to comment.

[The statement follows:]

STATEMENT OF JOHN E. DE VITO

SACRAMENTO - SAN JOAQUIN DELTA/BAY WATER QUALITY

Honorable Chairman and Committee members, my name is John E. DeVito, Executive Director of the Contra Costa Water District, a public agency of the State of California.

For forty-eight years, Contra Costa Water District by way of repayment contracts with the U.S. Bureau of Reclamation, has been responsible for the water supply for some 350,000 people, 23 industries that employ over 16,000 employees, and 150 small farms, through the Contra Costa Canal System, the first unit of the Federal Central Valley Project. The District also diverts water from the Delta under a vested water right dating back to 1930's prior to the CVP. We depend solely and totally on the Sacramento-San Joaquin Delta for our water supply.

Due to the USBR's over-commitment of the CVP water supply and build-ups in exports from the Delta, we will experience re-occurring increased salt water intrusion in the Delta, to a level that is adverse to public health, causes loss of certain industrial products, adds severe penalty treatment costs to all industry, and causes damage to irrigated plants. (Note attachments.)

Please note that the Bay Area Counties who depend on the Delta normally export about three percent of the total water extracted from the Delta; the San Joaquin Valley irrigated agriculture export approximately eighty-three percent and the

remainder, approximately fourteen percent, is pumped over the Tehachapi Mountains into the Los Angeles Basin Counties where 16 million people over two-thirds of the State's population reside.

These adverse effects on public health, industry and agriculture occurred, during 1959 - 1960 - 1961, due to USBR operations, during the 1976 - 1977 drought, the 1987 - 1988 drought and again during January and February this year 1989, due to the obvious over-commitment of the CVP. For 161 days in 1959 and 143 days in 1961, due to USBR export pumping caused salt water intrusion, the Water District distributed notices to the County Health Department, doctors, hospitals, and the press warning of high sodium levels in the water supply. USBR statements indicate that these poor water quality levels will occur in the future during normal years.

Accordingly, Contra Costa Water District respectfully requests the support for the conditions necessary to protect the beneficial uses in the Sacramento-San Joaquin Delta, San Francisco Bay and Suisun Marsh, with particular attention to:

No. 61-1-2 Delta Support Studies

Suisun Marsh Preservation Agreement

Bureau of Reclamation and Department of Water Resources agree that operation of the Federal Central Valley and State Water Projects have adverse effects on municipal, industrial and agricultural users which [illegible] their water from the

Delta, as well as on fish and wildlife in the Sacramento-San Joaquin Delta and San Francisco Bay Estuary. State Water Resources Control Board's Decision 1485 requires environmental studies be continued for use in future State water rights hearings. Contra Costa Water District urges full fundings for these studies including efforts in the Bay and the Federal share of the Suisun Marsh water quality facilities.

No. 79 Kellogg Unit-Central Valley Project
Contra Costa

Consistent with the federal cost-sharing policy, Contra Costa Water District has urged the USBR Regional Director, Mid-Pacific Region, to develop a plan of study for Kellogg Reformulation that provides for in-kind contributions at Water District expense. Contra Costa Water District supports the President's budget for $25,000.00 which would allow the USBR to complete the advanced planning for the Kellogg Unit Reformulation and the relocation of the Contra Costa Canal Intake, by

considering public hearing comments, complete the Report and maintain coordination.

No. 79A Off Stream Storage

Contra Costa Water District supports funding of feasibility investigations for offstream storage.

Under provisions of PL 99-546 and the Coordinated Operations Agreement, the U.S. Bureau of Reclamation now has a legal obligation to share with the California Department of Water Resources the responibility of meeting Bay-Delta water quality standards.

Offstream storage such as the California authorized Los Banos Grande Reservoir, provides a real opportunity for the USBR to participate jointly with California Department of Water Resources in order to satisfy this legal obligation.

Contra Costa Water District supports the reprogramming of an additional $350,000.00 to provide for Federal cost sharing feasibility work.

These studies would identify, possible federal participation increments,

potential export eduction during critical Delta Water Quality periods and Fishery requirements.

No. 80 San Joaquin Valley Conveyance Study

This study would lead to plans for recharging San Joaquin Valley aquifers with surplus Delta water and subject to the provisions of PL 99-546 and the Coordinated Operations Agreement could manage exports for the protection of Delta beneficial water uses. Contra Costa Water District supports the reprogramming of an additional $225,000.00 for this study.

No. 80A Delta Water Management Program

Consistent with the USBR obligations under PL 99-546 and the Coordinated Operations Agreement, Contra Costa Water District supports the reprogramming of an additional $350,000.00 to allow the USBR to fulfill its responsibility towards developing a program that would correct or at least minimize Delta water quality problems caused by water transfers from the Sacramento-San Joaquin Delta.

No. 84 Environmental and Iteragency Coordinations Activities

Contra Costa Water District supports the President's budget $575,000.00 so that the USBR can continue with its multi-agency responsibility as envisioned in the Coordinated Operations Agreement.

In order to implement the Congressional mandates of PL 99-546 and the Coordinated Operations Agreement, we respectfully urge your support for Contra Costa Water District and the California Water Commission's FY 88-89 recommendation for the President's budget requests and the reprogramming of additional funds for California Water Resources activities.

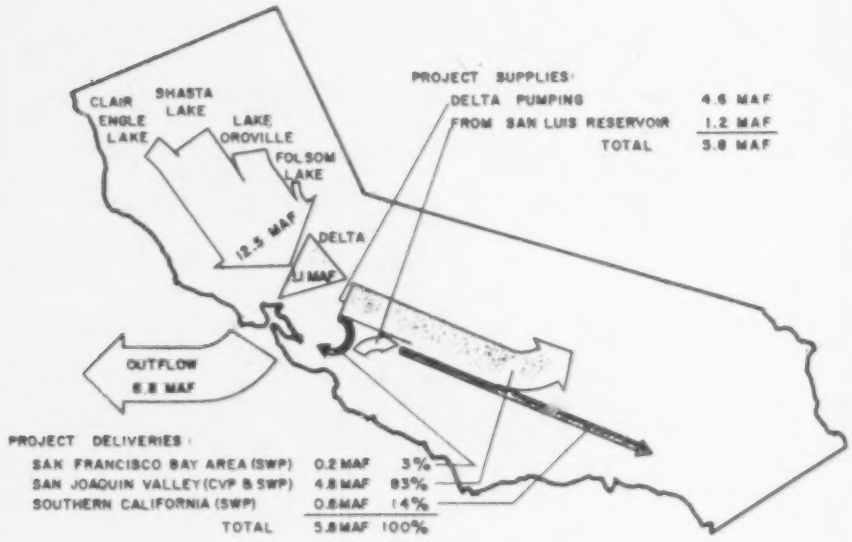
We believe that funding to implement the intent of PL 99-546 will maximize capabilities of existing projects, encourage local and State project financing and minimize the need for federal appropriations.

Please accept our appreciation for this opportunity to appear, and may this statement be made part of the record.

DELTA WATER SUPPLY AND USE - 1981

Water year 1981 (October 1, 1980 through September 30, 1981) was a dry year in the Sacramento River Basin. Natural river inflow to four major storage reservoirs totalled 11 million acre-feet (MAF), about 64 percent of the long-term average.

The diagram shows that the Sacramento-San Joaquin Delta received total river inflow of 12.5 MAF during the dry year. The inflow included augmentations of 1.4 MAF released from major storage reservoirs of the Federal Central Valley Project (CVP) and State Water Project (SWP).



Use of the Delta's 1981 inflow is summarized as follows:

Outflow to San Francisco Bay	6.8 MAF	54 percent of inflow
Water used within Delta	1.1	9
CVP and SWP project pumping	4.6	37
	12.5 MAF	100 percent

The diagram summarizes total CVP and SWP Delta water supplies as well as the projects' deliveries during 1981. Note that the supplies included 1.2 MAF pumped from the Delta before the water year began and stored for later use in San Luis Reservoir, located in the San Joaquin Valley near Los Banos.

ELSINOR VALLEY MUNICIPAL WATER DISTRICT LOAN

PREPARED STATEMENT OF NANCY SCHAFER

Mr. HILL. Thank you, John.

Our next, Mrs. Nancy Schafer, president, Elsinore Valley Municipal Water District has filed a statement with the committee.

[The statement follows:]

STATEMENT OF ELSINORE VALLEY MUNICIPAL WATER DISTRICT

The Santa Ana Watershed Project Authority (SAWPA) has contracted with the Elsinore Valley Municipal Water District (EVMWD), with the concurrence of the U.S. Bureau of Reclamation (USBR), to construct the Lake Elsinore Management Project on their behalf. This project is approved for grant and loan funding under P.L. 84-984 (Small Reclamation Projects Act of 1956, as amended).

This project was approved by the Secretary of the Interior and transmitted to Congress on April 11, 1985, as an approved project. A contract with the USBR was executed on September 23, 1985. Total project cost, including local funding is estimated at $42,000,000.

Federal funding in the amount of approximately $15,000,000 has been appropriated to date. As recommended in the President's budget for Fiscal Year 1990, we are respectfully requesting that your Committee provide for year four funding of the project in the amount of $10,820,000.

I plan to be in Washington D.C. with representatives of the Elsinore Valley Municipal Water District March 29 - April 5, 1989, when your Committee will be holding hearings on the appropriation bill, and I respectfully request the opportunity for Mrs. Nancy Shafer, Chairman of the Elsinore Valley Municipal Water District Board of Directors, to appear before your Committee in support of this very vital water management project. I am enclosing a summary of the Project which Mrs. Shafer will describe briefly as part of her testimony at the hearing.

We at SAWPA sincerely appreciate your assistance in scheduling the opportunity for Mrs. Shafer to appear before your Committee to testify on behalf of this very vital project, and as part of the California State Water Commission presentation.

PROJECT SUMMARY

Mr. Chairman, my name is Nancy Shafer, Chairman of the Elsinore Valley Municipal Water District (EVMWD). I appreciate the opportunity to submit this District's request for funding of a construction project under the authority of the Small Reclamation Projects Act.

Lake Elsinore Management Project
The Lake Elsinore Management Project is approved and authorized. The purpose of this project is to stabilize the Lake and create a permanent body of water bounded by recreational facilities and a wetlands preservation area. The proposed plan is a multi-purpose water resources program, which includes:

- Construction of a levee on the southeastern perimeter of the Lake;
- Channelizing the inlet;
- Widening, deepening, and minor relocation of the existing outlet channel;
- Construction of bridges across the outlet channel and across the inlet channel;
- Construction of three new wells and rehabilitation of the three existing wells owned by the State of California;
- Construction of service pads around the three existing wells;
- Expansion and improvement of the two existing State park units to include beaches, boat-launching facilities, and expanded campgrounds in accordance with California's State Park Recreational Plans;
- Development of a wetlands preservation area.

This program involves the establishment of a permanent Lake through the use of a levee to separate Lake Elsinore from its shallow southeastern floodplain. Natural flow would be supplemental, if necessary to maintain a minimum pool (elevation 1,240 feet) in Lake Elsinore. The Lake inlet would be relocated and improved to provide flood protection. The Lake outlet would be modified to (1)

improve water quality, (2) improve discharge capacity and efficiency, (3) provide for recreational development, and (4) accommodate local delivery of agricultural water.

A summary is enclosed.

LAKE ELSINORE MANAGEMENT PROJECT

LOCATION

The Elsinore Valley Municipal Water District includes Lake Elsinore, the City of Lake Elsinore, and approximately 67 square miles of unincorporated land, all within Riverside County in the State of California. The District is approximately 60 miles southeast of Los Angeles and 22 miles south of the City of Riverside.

BACKGROUND

Lake Elsinore is a natural sink at the terminus of the San Jacinto River. The Lake has historically fluctuated from being completely dry during drought years to periods of severe flooding during wet years. The purpose of the Project is to maintain a minimum water elevation in the Lake during dry years by reducing evaporation losses and introducing ground-water. The purpose of the project is also to maintain a maximum water elevation in the Lake during wet years through the use of an evacuation channel. By managing the Lake within optimal water surface elevations, benefits will be realized by agricultural irrigators, fish and wildlife, recreational users, and property owners.

NEED FOR THE PROJECT

The City of Lake Elsinore was incorporated in 1888 and is the oldest city in Riverside County. Since that time, the economic stability, growth and development of the Community have been dictated in part by the condition of the Lake. This history has been a turbulent one with both natural and man-made events contributing to the Lake's present condition and therefore to the general condition of the Community. While the Lake has fluctuated between periods of high water with some flooding and protracted periods of drought, the lifestyles and fortunes of the residents have risen and fallen in direct relation to the level of the Lake. In the past when the water level of the Lake was high, the City of Lake Elsinore experienced periods of substantial growth and development.

Throughout the drought period, a number of individuals and public agencies, both state and local, have worked to improve the situation at Lake Elsinore. In 1949, the Lake Elsinore Recreation and Park District was formed to manage and administer a program of Lake stabilization and recreational facility development. The Recreation and Park District staff worked throughout the early and mid-50's to develop the Lake for public use and to locate reliable water sources for stabilization of the Lake level. Simultaneously, efforts were underway to have Lake Elsinore incorporated into the State Park System. In 1957, the California State Assembly granted its approval, formally accepting Lake Elsinore as a State recreational area. In an effort to stabilize the Lake and to combat the effects of the continuing drought, the Lake Elsinore Recreation and Park District and the State Department of Parks and Recreation, working together, drilled three deep wells in the southeast end of the Lake. The wells draw water from the underground water basin and lift the water to the Lake.

The year 1969 brought a 1-year relief from the drought, raising the Lake level approximately 18 feet. Eight dry years following 1969 caused the Lake to once again recede. Without the replenishing well water and the single wet year (1969), Lake Elsinore would have been dry for 18 straight years (1960-1977).

PHYSICAL WORKS

The major features of the proposed plan are:

1. Main levee: approximately 11,000 feet long by 33 feet high with a top elevation of 1265, necessary to separate Lake Elsinore from the southeasterly floodplain. The levee will reduce the surface area of the Lake to approximately 3000 acres, thereby reducing evaporation losses, while also providing storage. The lands behind the levee will become available for use by agricultural irrigators and for recreational uses consistent with the land's continued designation as a floodplain (e.g. golf course).

2. Inlet channel: twin parallel levees with top elevation 1265 which will convey 100-year storm runoff from the San Jacinto River to the contained Lake Elsinore, including the runoff from a 100-year frequency storm.

3. Outlet channel modifications: deepening Lake Elsinore's natural outlet to a sill elevation of 1252, allowing outflow from the Lake to occur during major storms.

4. Outlet pump station: located at the mouth of the Lake's outlet channel. The pump station will lift a maximum 14 cfs from the Lake where it will flow downstream in Temescal Wash for ultimate use by agricultural irrigators.

5. Levee drainage pump station: capable of pumping a maximum 90 cfs, to lift local storm runoff from behind the main levee into Lake Elsinore.

6. Water supply wells: rehabilitate three existing and drill three new wells to replenish Lake Elsinore in dry years and to supply water for agricultural irrigation.

7. Lakeshore Drive Park: a new recreational day use facility located on the northeast shore of Lake Elsinore, including picnic area, beach, and marina.

8. Riverside Drive Campground: expansion of an existing campground and marina, located on the northwest shore of Lake Elsinore.

9. Distribution pump station and piping: to divert and convey water from the Temescal Wash to agricultural irrigators.

Santa Ana River Mainstem Project

STATEMENT OF BARBARA CRAM RIORDAN, SUPERVISOR, COUNTY OF SAN BERNARDINO, CA

Mr. Hill. Our next witness is Mrs. Barbara Riordan. I did not pronounce it right this morning, I hope I did better, the county of San Bernardino.

Mrs. Riordan. Thank you.

Mr. Chairman, the report from San Bernardino County, which has been provided to you, depicts our county projects. One of these, the Santa Ana River mainstream project is highlighted in red on the first page of the report.

It is of extreme importance, not only to San Bernardino County, but also the neighboring locally sponsoring counties for this project, Riverside and Orange Counties, where the flooding potential from the Santa Ana River continues to directly impact between 2 and 3 million people.

The proposed budget includes $20 million for the Corps of Engineers to continue engineering, design, and commence construction of the Seven Oaks Dam, a key element of the project.

The three sponsoring counties jointly support the proposed funding level and encourage your support in this appropriation.

The second project, the Day Creek water project, this is a $47 million multipurpose project which will provide both flood protection, and when complete, can serve up to 5,000 acre-feet per year. This project that is before you is in need of the appropriation of $9.16 million to be included in the current budget to enable the construction of the remaining 3 miles of channel to be completed in a timely fashion.

PREPARED STATEMENT

On behalf of the board of supervisors I wish to express appreciation for your past and for your continued support of these programs of priority concern to my San Bernardino County.

Thank you.

[The statement follows:]

STATEMENT OF BARBARA CRAM RIORDAN

The Board of Supervisors of San Bernardino County, State of California, is pleased to submit the following flood control projects for consideration in the FY 1989/90 federal budget:

CORPS OF ENGINEERS

Santa Ana River Mainstem "All River Plan" including Seven Oaks Dam, Mill Creek Levee, Oak Street Drain, Santiago Creek and San Timoteo Creek	$20,000,000

BUREAU OF RECLAMATION

San Bernardino County (Day Creek Water Project) Public Law 84-984, Loan Program	$ 9,160,000

These projects are included in the President's Budget for FY 1989/90 and have been recommended for funding by the California Water Commission. Support of funding for these recommended projects will promote the construction of critical flood protection works in San Bernardino County and also Orange and Riverside Counties. Your consideration is greatly appreciated by this Board.

Corps of Engineers
Santa Ana River Mainstem Project

ULTIMATE GOAL: Complete Dam and Reservoir construction by FY 96/97 **REQUIRED ACTION/SCHEDULE:** FY 89/90 Construction of test fill at dam site and abutment stripping	**ULTIMATE GOAL:** Design modifications to existing substandard levees and complete construction by FY 92/93 **REQUIRED ACTION/SCHEDULE:** FY 89/90 Initiate design of levee modifications	**ULTIMATE GOAL:** Construct 5.1 miles of channel improvements to provide protection from serious flooding in San Bernardino County and the cities of Redlands and Loma Linda **REQUIRED ACTION/SCHEDULE:** FY 89/90 Complete project study commenced during FY 87/88

ULTIMATE GOAL	REQUIRED ACTION/SCHEDULE		COST
Reduce major flooding along the Santa Ana River within three Southern California Counties.	FY 89/90	a) Pre-Construction Engineering and Design	$ 6,100,000
		b) Right of Way Acquisition, for Fish and Game mitigation	$ 6,300,000
		c) Construct a test fill at Seven Oaks Dam site	$ 4,200,000
		d) Abutment Stripping 7 Oaks	$ 3,100,000
		e) Complete project study for San Timoteo Creek	$ 300,000

Bureau of Reclamation
Day Creek Project

PHASE I
CONSTRUCTION COMPLETE
DEBRIS DAM
SPREADING GROUNDS
DAM & SPILLWAY
1 MILE OUTLET CHANNEL
COST $9.5 MILLION

PHASE IIA
CONSTRUCTION IN PROGRESS
2.9 MILES CHANNEL & ROAD X-INGS
DAY BASIN
COST $9.4 MILLION

PHASE IIIB
CONSTRUCTION NOT FUNDED
3.0 MILES CHANNEL & ROAD X-INGS
COST $9.6 MILLION

PHASE IIIA
CONSTRUCTION START JUL 89
1 MILE CHANNEL & ROAD X-INGS
COST $4.8 MILLION

PHASE IIB
CONSTRUCTION START MAY 89
2.0 MILES CHANNEL & ROAD X-INGS
RIVERSIDE BASIN
WINEVILLE BASIN
COST $8 MILLION

CONSTRUCTION COST	$41,300,000
NON-CONSTRUCTION COST	$ 5,700,000
TOTAL PROJECT	$47,000,000

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT

DAY CREEK WATER CONSERVATION AND FLOOD CONTROL PROJECT

- PROPOSED FACILITIES
- PROPOSED WATER CONSERVATION FACILITIES
- EXISTING FACILITIES
- NATURAL DRAINAGE COURSE

DATE	DRAWN BY	ACAD FILE	S.B.C.F.C.D. PLANNING FILE NO.
MARCH 16, 1989	JLD	PDAYCONG	PM-D1-91/phase

MINUTES OF THE BOARD OF SUPERVISORS

OF SAN BERNARDINO COUNTY, CALIFORNIA

FEBRUARY 27, 1989

On motion of Supervisor Walker, duly seconded by Supervisor Turoci, and carried, the following resolution is adopted by the Board of Supervisors of the County of San Bernardino, State of California:

RESOLUTION NO. 89-61

WHEREAS, on March 3, 1989, the State Water Commission will adopt final recommendations for Fiscal Year 1988-89 funding for Federal Water and Flood Control Projects; and

WHEREAS, these recommendations will be submitted to the Congressional Appropriations Committees; and

WHEREAS, there are several projects needed to solve serious flood control problems and to provide water conservation facilities in San Bernardino County;

NOW, THEREFORE, BE IT RESOLVED that the San Bernardino County Board of Supervisors strongly supports and recommends the following projects to the California Water Commission:

PROJECT	PRESIDENT'S BUDGET	S.B. COUNTY RECOMMENDATION FEBRUARY 27, 1989
U.S. ARMY CORPS OF ENGINEERS		
1. SANTA ANA RIVER MAINSTEM (C.W.C. NO. 21) - "ALL RIVER PLAN" INCLUDING SEVEN OAKS DAM, MILL CREEK LEVEES, SAN TIMOTEO CHANNEL, AND PRADO DAM AND RESERVOIR	$20,000,000	$20,000,000
BUREAU OF RECLAMATION		
1. DAY CREEK WATER CONSERVATION PROJECT (C.W.C. NO. 73A)	$ 9,600,000	$ 9,600,000

PASSED AND ADOPTED by the Board of Supervisors of the County of San Bernardino, State of California, by the following votes:

AYES: SUPERVISORS: Turoci, Walker, Riordan

NOES: SUPERVISORS: None

ABSENT: SUPERVISORS: Mikels and Hammock

* * * * * *

STATE OF CALIFORNIA
COUNTY OF SAN BERNARDINO } ss.

I, MARTHA M. SCUDDER, Clerk of the Board of Supervisors of the County of San Bernardino, State of California, hereby certify the foregoing to be a full, true and correct copy of the record of the action taken by said Board of Supervisors, by vote of the members present, as the same appears in the Official Minutes of said Board at its meeting of February 27, 1989. dm #44

MARTHA M. SCUDDER
Clerk of the Board

By _____ Deputy

SANTA ANA MAINSTEM PROJECT

STATEMENT OF MELBA DUNLAP, SUPERVISOR, RIVERSIDE COUNTY, CA

Mr. HILL. Thank you very much.

Our next witness is Supervisor Melba Dunlap, Riverside County.

Mrs. DUNLAP. Thank you.

I am Supervisor Melba Dunlap, chairman of the board of supervisors of Riverside County Flood Control and Water Conservation District.

And, Mr. Chairman, in respect for your time, as requested, I will simply reinforce the statement of the Riverside County's strong support, ongoing support for the Santa Ana River project and the Lake Elsinore management project.

Both of these projects are in the President's proposed budget. The Santa Ana River project is being proposed as a new start. The LCA is ready to sign. We are ready to start. All we need is the requested and proposed $20 million.

I also want to speak to a rather unique problem in my supervisorial district along the Santa Ana River. The city of Norco is adjacent and to the south of the Santa Ana River just prior to the river entering the Prado Reservoir. The left bank is formed by high bluffs ranging from 46 to 96 feet in height.

Action of the river in floods of 1969, 1978, and 1980, has undercut the river banks causing collapse of the bluffs and loss of valuable property. In 1980 a rather large residence was undermined and destroyed due to the river action against the bluffs. There are more than 50 homes, plus streets and utilities in danger of destruction due to the loss of the bluff by action of the Santa Ana River.

The Corps of Engineers estimates it will cost $6.1 million to solve this problem. Studies show the project has benefits that far exceed the costs. I am requesting that your committee authorize improvements along the Santa Ana River at the Norco Bluffs as part of the Santa Ana River mainstream project.

We are also requesting $340,000 dollars for a study of the White Water River basin and there are more details in my written statement that has been prepared.

We thank you for your support. We thank you for the appropriations.

[The statement follows:]

STATEMENT OF MELBA DUNLAP

S U M M A R Y R E C O M M E N D A T I O N S

SANTA ANA RIVER - MAINSTEM — $20,000,000

Construction - General

LAKE ELSINORE MANAGEMENT PROJECT — $10,821,000

Bureau of Reclamation Small Project Program

WHITEWATER RIVER BASIN, CALIFORNIA — $340,000

Reconnaissance Study

SANTA ANA RIVER AT NORCO BLUFFS

Authorize as an Element of Santa Ana Mainstem Project

SANTA ANA RIVER - MAINSTEM

The Water Resources Development Act of 1986 (Public Law 99-662) authorized the Santa Ana River - All River project which includes improvements along the river in Orange County, enlargement of Prado Dam and Reservoir near Corona, California, construction of a new dam (Seven Oaks) near the entrance to Santa Ana Canyon, improvement of the Oak Street Drain Channel in Corona, California, improvement of Santiago Creek in Orange County and various mitigation features as set forth in the Chief of Engineers' Report to the Secretary of the Army. The Boards of Supervisors of Orange, Riverside and San Bernardino Counties are in support of this needed project and have so stated in past resolutions to Congress.

The Phase II General Design Memorandum for this project has been completed. A Local Cooperation Agreement (LCA) has been negotiated with the three local sponsors and is essentially ready to be signed. The President has recommended that 20 million dollars be appropriated in Fiscal Year 1990 to start construction of the Santa Ana River Mainstem Project. This 20 million dollars will provide for acquisition of needed enhancement lands near the mouth of the river channel at the Pacific Ocean, construction of a test fill for the Seven Oaks Dam and continuation of preparation of plans and specifications for other elements of the project.

We strongly support the President's request for 20 million dollars to start this long awaited project and urge the Committee to approve the funds in the Fiscal Year 1990 appropriations.

LAKE ELSINORE MANAGEMENT PROJECT

The Elsinore Valley Municipal Water District, the County of Riverside and the State of California, Department of Parks and Recreation, cooperated in the preparation of a study and report of the problems in stabilizing Lake Elsinore through flood control and water development improvements and enhancing the recreational opportunities of the lake under the provisions of the Small Reclamation Projects Act of 1956 (Public Law 84-984) as amended. The results of that study and report were that flood control improvements, water supply development, modification to operational size of the lake and recreational improvements were feasible.

The Elsinore Valley Municipal Water District, acting as the local sponsor, submitted the report entitled, Proposed Lake Elsinore Management Project, to the Bureau of Reclamation as an application for a loan and grant of $26,000,000 for the 39.7 million dollar project. The Secretary of Interior approved the loan and grant application in March 1985.

Construction has been initiated on this important project. The President has included $10,821,000 in the Fiscal Year 1989 budget for the Bureau of Reclamation to continue the construction on the Lake Management Project. We support the President's budget recommendations and urge the Committee to approve $10,821,000 for the Lake Elsinore Management Project Loan in Fiscal Year 1990.

WHITEWATER RIVER BASIN

The Whitewater River, as it flows through the Coachella Valley area of Riverside County, California, cannot contain large flood flows within its banks and thus can cause extensive damage in the event of a large flood. This area of Riverside County is experiencing rapid development. The river passes through the Cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert and Indio on its way to the Salton Sea.

The Coachella Valley Water District and the Riverside County Flood Control and Water Conservation District are requesting that a reconnaissance phase feasibility study be performed to evaluate flooding problems along the Whitewater River and some of its major uncontrolled tributaries to determine if flood control improvements are deemed feasible. If a project is found to appear feasible, the two Districts are prepared to participate in a 50/50 cost shared detailed Survey Report Study with the Corps of Engineers.

The Los Angeles District of the Corps of Engineers estimates that a reconnaissance study would cost $340,000. We request your committee approve $340,000 in the Fiscal Year 1990 Energy and Water Appropriation for the Whitewater River Basin reconnaissance study.

SANTA ANA RIVER AT NORCO BLUFFS

The Santa Ana River passes along the northerly border of the City of Norco. Norco is situated on a bluff that forms the left bank of the river. The bluff varies in height from 46 to 96 feet above streambed.

The floods of January and February 1969 along the Santa Ana River caused impingement of the river bank, undermining the toe of the slope causing sloughing of the bank. Approximately 50 to 60 feet of the bluff retreated to the south. No improvements were lost at that time but the threat to improvements from future river actions became apparent. The Corps of Engineers performed some emergency revetment work in the Summer of 1969; however this work proved to be ineffective. The floods of 1978 and 1980 impinged further causing anther 30 to 40 feet of retreat of the bluff. One single family residence was undermined and destroyed because of this damage.

The Los Angeles District of the Corps of Engineers has done a Reconnaissance Assessment study of this problem at the Norco Bluffs. They estimate that over time up to 50 homes plus public and private infrastructure will be lost or destroyed by continued bluff retreat. They estimate the cost to correct the problem with a reveted buttress fill against the base of the bluffs will cost about 6.12 million dollars. The benefit cost ratio was estimated to be 1.14:1. The study was conducted to consider the applicability of the Small Flood Project Continuing Authority (Section 205 of the Flood Control Act of 1948) for this project. The Corps determined however that this authority was inappropriate for a project of this nature.

Since the problem is along the Mainstem of the Santa Ana River just before entering Prado Reservoir, we request the Committee authorize protection of the Norco Bluffs along the Santa Ana River as an element of the Santa Ana River Mainstem Project at an estimated cost of 6.12 million dollars (August 1989 prices).

SANTA ANA MAINSTEM PROJECT

STATEMENT OF DON ROTH, SUPERVISOR, ORANGE COUNTY, CA

Mr. HILL. Thank you very much.

Our next is Supervisor Don Roth of Orange County.

Mr. ROTH. Thank you. Mr. Chairman, I would appreciate the opportunity to say a few words and my remarks will be very, very short. I am Supervisor Don Roth representing Orange County, CA, which has a total population of 2.2 million people.

I am here to respectfully request your support for appropriations to initiate the construction of the Santa Ana River mainstem project.

I echo the remarks of Senator Wilson. The Corps of Engineers considers the Santa Ana River the greatest flood threat in the western part of the United States. A major flood of the Santa Ana River would endanger 3 million people, possibly kill 3,000, and destroy $18 billion worth of property.

The three impacted California counties, Orange, Riverside, and San Bernardino have agreed to local cooperation agreement. It

means that 29 percent of the projects total cost will be funded by us.

Orange County's required share is $280 million. And of that needed $280 million, $120 million is already allocated, and that number may reach $140 million, or 50 percent of our share by the end of this year.

Mr. Chairman, we are committed to this project and we hope that your support will indicate that we can go ahead in the fiscal year 1990.

Thank you.

Senator REID. How many counties are in California?

Mr. ROTH. Well, I tell you what, Orange County is the third largest county.

Senator REID. San Bernardino is the largest?

Mr. ROTH. Populationwise.

Senator REID. Landwise?

Mr. ROTH. Yes. Populationwise, it is Los Angeles County, then San Diego County, and then Orange County. So we are No. 3.

Senator REID. How many total?

Mr. ROTH. Fifty-eight.

Senator REID. Fifty-eight. Thank you.

Mr. ROTH. Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF DON R. ROTH

A. SUMMARY

This is a request by Orange County, California for your support of an appropriation of $20 million to initiate construction of the Santa Ana River Mainstem Project.

The U. S. Army Corps of Engineers considers the Santa Ana River to be the most critical flood threat in the West which could kill 3,000 people and destroy property valued at $18 billion.

Orange County's share of this billion dollar project is about $280 million. Orange County has demonstrated its commitment to the project by allocating $120 million to the project; this figure may reach $140 million or 50% of its share by year-end.

Orange County has agreed to a Local Cooperation Agreement to provide lands, easements, rights-of-way, relocations and disposal sites required for the project.

In advance of Federal appropriations for construction or execution of a Local Cooperation Agreement, Orange County has initiated substantial land acquisition for the new Seven Oaks Dam, the expanded Prado Dam Reservoir and for lands at the mouth of the Santa Ana River. In addition, work is underway to relocate four bridges, a flood-control ocean outlet, and a hydroelectric plant. Orange County also advanced $3 million to the Department of the Army to accelerate the Phase II General Design Memorandum which is now complete.

By these actions, Orange county has demonstrated its confidence in this critical project in advance of any guarantee by the Federal Government.

Your support of appropriations for the initial construction of the Santa Ana River Mainstem Project is urged to reinforce Orange County's confidence and commitment to the project and to provide its citizens with urgently-needed flood protection as early as possible.

B. PREPARED STATEMENT

Mr. Chairman and Members of the Committee, I am Don Roth , Supervisor of the Fourth Supervisorial District of Orange County, California, representing Orange County as one of the Local Sponsors which includes Riverside and San Bernardino Counties for the Santa Ana River Mainstem Project.

The U.S. Army Corps of Engineers identifies the Santa Ana River as the most critical flood threat in the West. A major flood along the river endangers about 3 million people in Orange, Riverside and San Bernardino Counties and could kill 3,000 people destroying property valued at $18 billion.

The total cost of the Santa Ana river Mainstem Project to provide flood protection is estimated to be about $1 billion. Orange County, as the major beneficiary, has a share of about $280 million.

The Orange County Board of Supervisors recognizing the flood threat from the Santa Ana River, the urgent need for protection and need for greater participation by Local Sponsors in constructing Federal Flood Control projects has allocated about $120 million to support the Project for the past eleven years. We estimate this will increase to about $140 million or 50% of Orange County's total share in our next fiscal year.

The Local Sponsors, working with the Department of the Army, have developed and agreed to a Local Cooperative Agreement to provide all lands, easements, rights-of-way, relocations and disposal sites required for the project. Although

the Local Cooperation Agreement was approved by the Assistant Secretary of the Army, the Army will not execute the LCA until Congress appropriates funds to initiate construction of the project.

However, The Orange County Board of Supervisors has authorized start of work to provide the lands, easements, rights-of-way and relocations necessary for the project in advance of authorization by an executed Local Cooperation Agreement. Orange County, being fully committed to this project, is now performing significant work; Orange County is taking this risk to support the Army Corps of Engineers' schedule of construction and to provide its citizens with urgently-needed flood protection as early as is possible.

Work currently underway by Orange County includes surveying, right-of-way engineering and appraisals for substantial land acquisitions required for the Seven Oaks Dam, the expanded Prado Reservoir and at the mouth of the Santa Ana River. Orange County is also relocating the Pacific Coast Highway, Hamilton-Victoria, Katella and Orangewood Bridges as well as the Talbert Channel Outlet to the Ocean and the Southern California Edison Hydroelectric Plant at the Seven Oaks site.

Orange County has advanced $3 million to the Corps of Engineers to accelerate preparation of the General Design Memorandum, Phase II to provide a firm base for final design of each feature of the project; Record of Decision is now in process.

We receive some confidence in proceeding with work on the project by the fact that President Bush includes $20 million for the initial construction on the SAR Mainstem Project in his Fiscal Year 1990 Federal Budget. I believe Orange County has demonstrated its support and commitment to the project to the extent of allocating funds and performing work in advance of any guarantee by the Federal Government. Therefore, consistent with the U.S. Army Corps of Engineers' concern for the serious threat to the Citizens of Orange, Riverside and San Bernardino Counties, we respectfully request your support of the $20 million for initial construction of the Santa Ana River Mainstem Project in President Bush's budget.

STATEMENT OF GEORGE OSBORNE, EXECUTIVE DIRECTOR, SANTA ANA RIVER FLOOD PROTECTION AGENCY

I am George Osborne, representing the Santa Ana River Flood Protection Agency, a joint powers group of 20 cities, the County of Orange, the Orange County Water District, the County Sanitation Districts and the Orange County Flood Control District. These agency members represent more than 2,000,000 persons in Orange County, California who would be adversely affected by a major flood in the Santa Ana River.

The Agency strongly supports the proposed budget amount of $20,000,000 for the actual start of construction on the Santa Ana River Mainstem Project. This start will represent the beginning of the end of a long struggle for Orange County's protection from Santa Ana River flooding.

The basic problem is that Prado Dam, completed in 1940 under the authorization of the Flood Control Act of 1936, was designed to contain and control a flood thought at the time to be adequate. For a number of years the cities of Orange County and the county government itself relied on the adequacy of Prado Dam in approving new development in Orange County. This agency was formed after the Corps of Engineers restudy revealed that Prado Dam would not function as originally planned and that large floods would still cause widespread damage in Orange County. The purpose of the agency was to obtain a federal project to remedy the Prado deficiency that represented the worst flood

hazard west of the Mississippi according to the Corps of Engineers. For fifteen years the agency has worked with Riverside and San Bernardino Counties, the Corps of Engineers and the Congress through a 1975 Review Report, a 1978 Corps Report to the Congress, the 1980 Phase I General Design Memorandum, the 1985 Flood Control Storage Alternatives Study, the Water Resources Development Act of 1986 (PL 99-662) and then the 1988 appropriation bill where $16 million for the Santa Ana River Mainstem was removed along with all other new start appropriations.

The need for this project has been so thoroughly documented in previous years that reiteration is unnecessary. The accompanying need for control and reduction of the Federal Deficit is recognized; so the requested appropriation becomes a question of priority compared with other federal needs. If protection of its citizens from enemies is one of the highest functions of government, then an appropriation for the beginning of construction of the Santa Ana River Mainstem in Fiscal 1990 is very much in order and is strongly urged.

Los Angeles County Drainage Area Study

STATEMENT OF CHRISTIAN DATWYLER, ASSISTANT DEPUTY DIRECTOR, LOS ANGELES COUNTY PUBLIC WORKS

Mr. Hill. Thank you. Our next witness, Mr. Christian Datwyler, assistant director of Los Angeles County Public Works.

Mr. Datwyler. Thank you.

I am Chris Datwyler from the Los Angeles County Department of Public Works. This map shows that in southern California there are two dangerous flood systems, in Santa Ana and Los Angeles.

As with the Santa Ana flood control project, the Los Angeles County drainage area project needs the support of this distinguished committee to project life and property in the largest U.S. urban county: $450,000, to complete the investigation and $3 million to begin PE&D.

The board of supervisors of Los Angeles County deeply appreciates your committee's attention to the LACDA project.

[The statement follows:]

STATEMENT OF N.C. DATWYLER

Summary of recommendation by Los Angeles County Department of Public Works concerning the budget allocation to the U.S. Army Corps of Engineers.

Los Angeles County Drainage Area (LACDA) Study - We strongly support the California Water Commission's recommendation for an allocation of $3 million to fund the Preconstruction, Engineering, and Design phase of the LACDA project. Because of the seriousness of the deficiencies in major elements of our flood control system, we further urge that Congress consider authorizing construction of the remedial work as soon as this study is completed and approved.

Mr. Chairman and Gentlemen:

Floods are a part of the history of the Los Angeles basin. Widespread floods have periodically devastated vast areas of the basin and were responsible for the taking of lives, damaging property, and interrupting commerce and trade. The level of flooding was so great, that at times, the County was isolated from the rest of the nation.

The Corps of Engineers and the County of Los Angeles, through its Flood Control District, have built one of the most extensive and sophisticated flood control systems in the world. Construction of the major elements of the system began in the 1930's. Since the major segments were completed, it is estimated that the system has prevented $3.3 billion in potential flood damage.

Development which occurred after World War II exceeded the projections the designers made in the 1930's and has increased runoff to the point where, even in a moderate storm, the runoff could exceed the design capacity of the system. Portions of the system are seriously deficient. For example, the lower Los Angeles River in the City of Long Beach can only carry runoff from a 40-year storm, and came close to overtopping in 1980. A flood of greater magnitude would have a tremendous impact, both personal and economic, on Los Angeles County, the nation's second largest metropolitan area.

Therefore, at the request of Los Angeles County, the U.S. Army Corps of Engineers has been analyzing the adequacy of the existing major flood control facilities serving the Los Angeles basin in the LACDA Review Study. In 1987, the Corps of Engineers completed the problem identification phase of the Study. We are pleased to report that the Corps has made tremendous progress in the past year and is rapidly nearing completion of this important Study.

The problem identification phase identified 100-year flood damages totaling $2.25 billion covering an 82 square-mile area which houses 625,000 people. A 500-year flood would inundate 193 square-miles and cause $5.1 billion in damages. All these damages would occur in the heavily urbanized Los Angeles basin.

These potential damages are similar to those identified for the Santa Ana River project in nearby Orange County. By comparison, in a 100-year flood, the Santa Ana River could flood a 60 square-mile area, causing $3.0 billion in damage, affecting 310,000 people.

To mitigate the flood threat of the Los Angeles River, the Corps of Engineers reviewed alternative solutions during the last year and a half. The Corps of Engineers recently conducted environmental impact scoping meetings in the Los Angeles area to present its preferred alternative solution and solicit comments as a part of the environmental review process. A project involving increasing the effective height of the levees and raising some of the bridges along the Los Angeles River below South Gate and on the Rio Hondo south of Whittier Narrows Dam is anticipated to cost approximately $300 million. This project will have an extremely favorable cost-benefit ratio and provide protection from a greater than 100-year storm.

The Corps of Engineers has done an outstanding job of maintaining the schedule to complete the Feasibility Study by September 1989. Completion of the study should be followed by Preconstruction, Engineering, and Design (PED).

It is estimated that PED would take three years with a total expenditure of $9 million. Therefore, we strongly urge that Congress include $3 million in the President's budget for Fiscal Year 1990 so that plans can be developed and the project constructed as soon as possible. Because of the magnitude and seriousness of the problem, we also urge the Congress to consider authorizing construction of the remedial work at the earliest possible date.

CALIENTE CREEK, CA, FLOOD CONTROL PROJECT

PREPARED STATEMENTS

Mr. HILL. Thank you very much.

Mr. Ben Austin, second district supervisor, County of Kern has filed a statement.

[The statements follow:]

STATEMENT OF BEN AUSTIN, SUPERVISOR, 2D DISTRICT, KERN COUNTY, CA

I am Ben Austin, Supervisor of the Second District in Kern County, California. I am here today on behalf of the Kern County Board of Supervisors, the Kern County Water Agency and several local districts to request your support for Fiscal Year 1989-90 funding for the Corps of Engineers' Caliente Creek flood control project in Kern County. We are supporting the President's Proposed Budget allocation of $600,000, which will be used to continue preconstruction engineering and design work.

With me today are Mr. Randall Abbott of the Kern County Department of Planning and Development Services, and Kern County Water Agency General Manager Stuart T. Pyle.

The Caliente Creek Flood Control Project is the first federal project in the nation for which local interests cost-shared 50 percent with the federal government for the feasibility study. The feasibility study is now complete, and awaits approval by the Corps' Board of Engineers for Rivers and Harbors. The report indicates a favorable benefit-to-cost ratio of 1.3, and recommends a $58 million project consisting of a single flood detention reservoir and two flood channels. Under the cost-sharing agreement for the feasibility study, local interests spent more than $500,000 in cash and in-kind services.

We are committed to cost-share the construction phase of the project as well. Although actual construction is a few years away, we are close to completing the process of identifying and implementing the appropriate local organizational structure to develop the financial resources for project construction, operation and maintenance.

This level of financial and institutional commitment at the local level would not exist unless the project were viable, economically feasible, and urgently needed. The local districts who have joined the County Board of Supervisors and Kern County Water Agency in this effort to solve Caliente flooding problems are Arvin-Edison Water Storage District, Kern Delta Water District, Lamont Storm Water District and the City of Arvin. The landowners and taxpayers within the boundaries of these districts pay twice for the pro-

ject, first through federal taxes that contribute to the federal share of project costs, and then again through the local cost-sharing agreement. Our goal is to prevent damages such as those that were incurred during the historic floods of 1983 and 1978 from ever happening again. Those floods together caused more than $36 million in damages.

Your past support for the Caliente project is deeply appreciated. We ask for your continued support.

Thank you for this opportunity to present our concerns to you today.

STATEMENT OF STUART T. PYLE, GENERAL MANAGER, KERN COUNTY, CA, WATER AGENCY

I am Stuart T. Pyle, General Manager of the Kern County Water Agency in Bakersfield, California. I join Kern County Supervisor Ben Austin in requesting your support for Fiscal Year 1989-90 funding to continue preconstruction engineering and design work for the Corps of Engineers' Caliente Creek flood control project in Kern County. We are supporting the President's Proposed Budget allocation of $600,000 for this purpose.

The Kern County Water Agency is the leading local sponsor for the Caliente Creek Flood Control Project. This is the first federal project in the nation for which local interests cost-shared 50 percent with the federal government for the feasibility study. Completed last year, the feasibility report awaits approval by the Corps' Board of Rivers and Harbors. The report recommends a single flood detention reservoir and two flood channels project, which will cost about $58 million, and which has a favorable benefit-to-cost ratio of 1.3.

The Caliente Creek project enjoys exceptionally strong and cohesive local support. The Agency, Kern County Board of Supervisors, Arvin-Edison Water Storage District, Kern Delta Water District, Lamont Storm Water District and the City of Arvin are coordinating efforts to define and implement the appropriate local institutional structure to assume the local cost-sharing

reponsibility for project construction costs and operation and maintenance functions.

These local districts have already spent more than $200,000 in cash to cost-share the feasibility study and contributed more than $300,000 in in-kind services for the study.

Your past support for the Caliente project is deeply appreciated, and we urge your continued support. We need your help to make sure that devastating flood damages such as those incurred in 1978 and 1983 will never happen again. Those floods together caused more than $36 million in damages.

Thank you for this opportunity to present our concerns to you today.

NORTHERN CALIFORNIA STREAMS STUDY

STATEMENT OF TERRY PAXTON, DIRECTOR, ENGINEERING SERVICES, OFFICE OF FLOOD CONTROL PLANNING

Mr. HILL. Our next is Mr. Terry Paxton, Office of Flood Control.

Mr. PAXTON. My name is Terry Paxton and I appear before you today on behalf of the county and the city of Sacramento, and the Sacramento Metropolitan Flood Protection Task Force.

With me today is Bert McCollam, division manager of the flood control and sewer division of the public works for the city of Sacramento.

And I am going to end my statement at that point due to the time and express my gratitude for the past support we have had this year from the Congress and from the Senate in getting our projects moving.

Thank you.

[The statement follows:]

STATEMENT OF THE CITY AND COUNTY OF SACRAMENTO AND SACRAMENTO METROPOLITAN FLOOD PROTECTION TASK FORCE

My name is Terry L. Paxton. I am Director of Engineering for the newly formed Office of Flood Control Planning for the greater Sacramento area. I appear before you on behalf of the City and County of Sacramento and the Sacramento Metropolitan Flood Protection Task Force members.

I am here today to express our gratitude to the Subcommittee and particularly to our Congressman Vic Fazio, for your past support and request your continued support for the Feasibility Study for the American River Watershed Investigation and for the design and construction of levee stability improvements to the Sacramento River Flood Control Project.

In January 1988 Corps' studies concluded that the American River flood control system only provides a 63 year level of protection. In May 1988 Corps' studies concluded that 32 of the 110 miles of the Sacramento River levee system were unstable. Both these systems provide flood protection to the greater Sacramento area where 1.4 million people live and $15 billion in flood damageable property exists.

Our interest today, however, is with the FY 90 funding for the American River Watershed to continue studies and for the Sacramento River Flood Control Project to continue design and initiate construction of levee stability work in the Sacramento area. For the American River Watershed study, there is a likely need for additional funds, and it is urged that the committee support reprogramming of funds if necessary to assure completion of the study. In order to initiate construction of the stability improvements to the Sacramento River Flood Control System, an additional $3.0 million is needed for FY 90.

This additional funding will allow the stability reconstruction to begin July 1990. We believe this fast tracking schedule is essential because failure of a levee as a result of stability problems is impossible to predict and the 1.4 million people and $15 billion in property are thus in immediate jeopardy.

The local 50 percent funding share for the American River Watershed Investigation and 25 percent minimum share for the stability reconstruction of the Sacramento River levees have already been or are being included in the existing and upcoming budgets of the State and various affected agencies. A local feasibility cost sharing agreement between the various agencies for the American River Watershed Study was executed on June 17, 1988 and a local cooperation agreement for the levee stability reconstruction work is presently being negotiated.

This willingness of the various agencies to share in the cost of these projects, I believe, demonstrates that we are united and committed to providing additional flood protection to the greater Sacramento area. Another demonstration to this commitment was the formation of the joint Sacramento Flood Control Planning Office by the respective governing bodies of the City and County of Sacramento.

This new office reports to the Sacramento Metropolitan Flood Protection Task Force which is made up of elected officials from Sacramento County, Sacramento City, Reclamation District 1000 and the American River Flood Control District. The main mission of the staff of this office is to develop long term project consensus and

to form a flood control entity for continued financing of the design, construction and maintenance of the needed flood control projects.

Before closing I would like once more to express our gratitude to the Subcommittee and our Congressman Vic Fazio for your strong support this last year in encouraging the Corps of Engineers to undertake, without delay, the reconstruction of the existing Sacramento River levee system. Additionally, I would like to state that the help and cooperation we have received this year from the Corps of Engineers in identifying and finding solution to our flood problems was commendable.

Thank you for your consideration and continued support.

UNITED WATER CONSERVATION DISTRICT LOAN

PREPARED STATEMENT

Mr. HILL. Thank you very much.

Our next, Mr. John Flynn, supervisor, Ventura County, has filed a statement.

[The statements follow:]

STATEMENT OF VENTURA COUNTY AND VENTURA COUNTY FLOOD CONTROL DISTRICT, CALIFORNIA

My name is John K. Flynn. As a member of the Ventura County Board of Supervisors, I represent the County of Ventura and the Ventura County Flood Control district.

I am appearing today to urge your inclusion of $6,247,000 in the FY 90 Energy and Water Development Appropriations Bill for the United Water Conservation District to complete construction of the Freeman Diversion project on the Santa Clara River in Ventura County, California.

Seawater intrusion poses a serious threat to continued agricultural production in a large portion of Ventura County. The Oxnard Plain, which has been farmed since the turn of the century, depends heavily on ground water as the source of water for irrigation. Heavy use of irrigation wells has caused ground water levels to decline which, in turn, has allowed salt water from the adjacent Pacific Ocean to intrude in excess of 20 square miles of the upper aquifer under the Oxnard Plain. The immediate effect of this underflow is an inability to continue the use of wells for a water supply which, in turn, has affected the urban and agricultural communities supplied thereby.

In recognition of this problem, the Board of Supervisors of Ventura County, the United Water Conservation District, and the State of California have developed a project to increase utilization of an alternate water supply, the Santa Clara River, and to decrease pumping of water from the affected aquifer.

Ordinances are in effect that prohibit further pumping from the aquifer and pipelines, terminal reservoirs, and new wells have been

constructed to provide supplemental water to the area. Local, State, and Federal expenditures to date approximate $221 million.

The keystone of this project is the Freeman Diversion Structure, a concrete stabilizer to be constructed in the Santa Clara River, that will allow increased amounts of water to be diverted from the river to provide users an alternative water supply through the pipelines and to recharge the ground water basin to halt and reverse the intrusion of salt water under the Oxnard Plain.

Your committee graciously included appropriations of $570,000 in the FY 87 supplemental bill for design, $5,500,000 in the FY 88 bill for construction of canal and desilting facilities and $5,000,000 in the FY 89 bill to start construction of the diversion structure. Now, the $6,247,000 remainder of the authorized loan funds is needed for FY 90 to help complete the project. Because of construction inflation and conditions imposed by regulatory agencies, since the loan was authorized, approximately $6,000,000 to $8,000,000 of local funding will be required to complete the project. It is United Water Conservation District's intent to apply for a PL-988 loan augmentation to offset the local funding contribution, and then return to the congress for the additional appropriation.

I urge you to support the continuation of this project, and to include $6,247,000 in the FY 90 appropriations bill.

Thank you for allowing me to present this Statement.

STATEMENT OF FREDERICK J. GIENTKE, GENERAL MANAGER, UNITED WATER CONSERVATION DISTRICT, CALIFORNIA

My name is Frederick Gientke. I am the General Manager of the United Water Conservation District.

I am here to request that you support the inclusion of $6,247,000 in the FY 1990 Federal budget to provide urgently needed funding for use in completing the Freeman Diversion Improvement Project.

The United District, in cooperation with the County of Ventura, is in the midst of addressing the very serious seawater intrusion problem relentlessly encroaching under the lands of our coastal plain. Local funding in excess of $15 million has already been expended on construction of the initial elements of the program to resolve the intrusion problem. The final elements of the seawater intrusion program consists of the Freeman Diversion Improvement Project.

Your committee has graciously included appropriations of $11,070,000 in the past three fiscal years, most of which has already been expended for the successful construction of Phase I of said project, consisting of canal and desilting facilities. Attached is a recent aerial photo of said canal and desilting facilities.

Now $6,247,000, as recommended in the President's budget is needed for FY 1990 to complete the project. I urge your support for the continuation of this important project.

Thank you for allowing me to present this statement.

Phase I of the Freeman Diversion Improvement Project, consisting of a 3,700 foot-long concrete-lined canal and 41-acre sediment settling basin, is located next to the Santa Clara River approximately one mile upstream from Saticoy in Ventura County. The project has been in the planning stages for over five years and will increase the water yield diverted from the Santa Clara River, as well as stabilize the river channel, which has lowered about 20 feet from gravel mining operations. The increased yield will assist in abating the seawater intrusion in the Oxnard Plain. Dames & Moore, engineers for United, are managing construction of the $8.6 million Phase I contract which will be completed in late 1988.

Phase II of the project will consist of a 1,740 foot-wide river stabilization structure, diversion headworks, and fish ladder and is expected to be awarded early next year.

SAN FELIPE DIVISION, CUP, CALIFORNIA

STATEMENT OF CRAIG FRENCH, GENERAL MANAGER, PAJARO VALLEY WATER MANAGEMENT AGENCY

PREPARED STATEMENT

Mr. HILL. Our next witness is Mr. Craig French.

Mr. FRENCH. Thank you Mr. Chairman.

My name is Craig French from Pajaro Valley. I am here to request the support of your committee for an augmentation of $400,000 to the San Felipe Division. This would allow the Bureau of Reclamation to continue a feasibility study with our agency for importation of San Felipe water to our area to solve problems of overdraft and sea water intrusion.

My comments are more detailed in my written testimony.

Thank you very much.

[The statement follows:]

STATEMENT OF CRAIG FRENCH

Thank you for the opportunity to appear before you in support of an important water project for the Pajaro Valley Water Management Agency.

The Presidents proposed Bureau of Reclamation budget for California water projects has included $2,500,000 for the San Felipe Division of the Central Valley Water Project. The Pajaro Valley Water Management Agency (PVWMA) representing the Watsonville sub-unit of the San Felipe Division asks that the Committee support our request and the recommendation of the California Water Commission in approving an additional $400,000 to the Division for a total budget of $2,900,000.

The $400,000 will allow the Bureau of Reclamation to continue a feasibility study, begun in 1988 on cost share basis with PVWMA, for delivery of 19,900 acre-feet of San Felipe water to the Pajaro Valley. This 19,900 acre-feet was allocated to the Pajaro Valley when the San Felipe Division was originally authorized. Delivery of this water will help resolve problems of groundwater overdraft and seawater intrusion.

The 1988-89 adopted budget included funding for the preparation of this feasibility study with the knowledge that the effort would take approximately 2 years to complete. Work is currently underway and the Bureau of Reclamation has the capability for continuation of this work in 1989. Completion of the feasibility report is required before the PVWMA can contract with the Bureau of Reclamation for delivery of water to Pajaro Valley. Delivery of this water to Watsonville would complete the final component of the San Felipe Division.

The California Water Commission has supported the additional $400,000 to the San Felipe Division and includes this in its final recommendations to the Subcommittee.

The Pajaro Valley Water Management Agency respectfully requests and urges the Subcommittee on Energy and Water Development to include the additional $400,000 for the Watsonville sub-unit and approve a total budget for San Felipe of $2,900,000.

Thank you Chairman Johnston and members of the Subcommittee for you consideration and support of this request.

SANTA ANA WATERSHED MANAGEMENT STUDY

PREPARED STATEMENT

Mr. HILL. Thank you.

Mr. Andy Schlange for the Santa Ana River water project has filed a statement.

[The statement follows:]

STATEMENT OF J. ANDREW SCHLANGE, MANAGER, SANTA ANA WATERSHED PROJECT AUTHORITY

The Santa Ana Watershed Project Authority (SAWPA) executed a contract for a General Investigation Program with the U.S. Bureau of Reclamation (USBR), entitled San Bernardino Valley Groundwater Project, on October 7, 1987. The project is expected to cover a period of three years with 50 percent of the funds appropriated by SAWPA and 50 percent matching funds from the U.S. Bureau of Investigation.

The study, which is extremely important to the implementation of water management concepts, which will result in significant water conservation, was funded by the Congress during Fiscal Years 1987 and 1988 with an appropriation of $150,000 and $100,000, respectively. Unfortunately, the study was not funded in the President's budget for Fiscal Year 1990.

SAWPA will request its Congressional Delegation to make a special request for a continued appropriation for Fiscal Year 1990 budget year in the amount of $200,000 to continue this very vital work.

During the California Water Commission Hearings, week of March 10, 1989, the Water Commission did approve this matter for recommendation to the Congressional Delegation on behalf of SAWPA in the above-mentioned amount.

I plan to be in Washington D.C. March 29 - April 5, 1989, when your Committee will be holding hearings on the appropriation bill, and I respectfully request the opportunity to appear before your Committee in support of this very vital water management project. I am enclosing a summary of the Study which I will describe briefly as part of my testimony at the hearing.

We at SAWPA sincerely appreciate your assistance in scheduling the opportunity to appear before your Committee to testify on behalf of the SAWPA Project, and as part of the California State Water Commission presentation.

PROJECT SUMMARY

Mr. Chairman, my name is Andrew Schlange, General Manager of the Santa Ana Watershed Project Authority (SAWPA). I appreciate the opportunity to submit SAWPA's request for funding of a planning project under the general investigation program of the Bureau of Reclamation.

San Bernardino Valley Groundwater Project
SAWPA is the local sponsor of the Bureau of Reclamation's San Bernardino Valley Groundwater Project. This important study could lead to a unified water management concept which could result in significant water conservation. The Santa Ana Watershed is currently losing thousands of acre-feet of water to the Ocean while at the same time importing supplemental water at a cost of $200 per acre foot. This investigation will put in place the framework for reducing the need for supplemental water by full use of local supplies. The fiscal year 1987 budget included an appropriation of $150,000; the fiscal year 1988 budget does not include funding for this study as part of the Bureau of Reclamations general investigations program. We respectfully request continued appropriations of $200,000 to match local funding of the same amount in fiscal year 1990.

A summary is enclosed.

SAN BERNARDINO VALLEY GROUNDWATER PROJECT

BACKGROUND

The Santa Ana River watershed comprises approximately 2,200 square miles in portions of San Bernardino, Riverside, Los Angeles and Orange Counties. It contains a population of about 3.5 million persons and is one of the fastest growing areas of the United States. Copious supplies of groundwater facilitated extensive agricultural development and urban growth. In recent decades, however, local water supplies were not sufficient to keep up with demand, and now water is being imported into the area to supplement local supply. In the future, import water is expected to cost up to $300 per acre foot. Consequently, making optimum use of the basin's local supply is imperative.

A key element of the basin's water supply is the groundwater basin under the San Bernardino Valley, both because of the amount of water it provides for overlying agricultural and municipal purposes, and because of its potential to capture and hold spring runoff if storage capacity is available there.

The Santa Ana Watershed Project Authority was established to provide oversight of the water supply and quality of the entire basin. It functions as a cooperative union of five member agencies who together cover the entire basin, namely: Chino Basin Municipal Water District; Orange County Water District; Western Municipal Water District; Eastern Municipal Water District, and San Bernardino Valley Municipal Water District.

Recognizing that the management of the local water resources in the basin are not at an optimum and that improved management could yield more of this costly commodity than at present, SAWPA has requested that Reclamation conduct a planning study which would develop an operating plan that facilitates more efficient use of the local resource.

Numerous other water agencies and flood control agencies in the basin are responsible for management of various portions or aspects of the basin water resource, and are thus also vitally interested in the prospects for improved management.

OBJECTIVES OF STUDY

The objective of the San Bernardino Valley Groundwater Project is to develop a program for the long-range management of the San Bernardino Valley Groundwater Basin and the upper Santa Ana River Watershed, in which it lies, to achieve the greatest practical yield of water occurring locally in the watershed. In order to do this, coordinating groundwater recharge is necessary, using local and imported water with extraction of water for use in a flexible plan that can cope with years of high runoff and low runoff and reasonably meet all the demands put on the groundwater basin. In other words, a plan should balance out the local water supply for wet and dry periods, which tend to occur in erratic cycles.

Based on past and present water supply conditions in the basin, this objective is anticipated to involve the construction of physical facilities to extract water from the San Bernardino Basin and convey it elsewhere for direct use or for storage.

The ultimate product of this process would be a planning report which would, after public review, be submitted to Congress for authorization of Federal funding for works that need to be constructed. Integrated into this report would be sufficient documentation to satisfy the reporting requirements of the National Environmental Policy Act. Perhaps even more importantly, the report would contain a plan of operation for the basin that would have the concurrence of involved water interests.

PROBLEMS TO BE ADDRESSED BY THE STUDY

The following problems will be addressed, individually or in combination, as part of the plan formulation process.

1. The watershed sporadically looses large quantities of water to the ocean during periods of high runoff.

2. High water table in the San Bernardino area is causing damage to public and private buildings and aggravates the risk of seismic disturbance in the event of an earthquake.

3. A technical "overdraft" situation exists in the San Bernardino Groundwater Basin despite a surplus of water in the lower-elevation portion of the basin. This stems from institutional constraint on remedies.

4. The groundwater basin in the Yucaipa area is overdrafted.

5. The Chino Basin has unused storage capacity for water, and is at the same time loosing water from its lower-elevation areas.

6. Institutional barriers prevent exchanges of water which would provide fuller utilization of the local supply.

7. Groundwater pollution is occurring in certain areas of the basin and is degrading water quality, preventing its use for municipal purposes and degrading water quality in the lower part of the basin.

8. The basin is not self-sufficient in water supply, but relies on supplemental import water. The import water supply may be insufficient to meet short term needs during critical shortage periods.

STUDY PHASES

The San Bernardino Valley Groundwater Project will involve three successive phases. Generally, each phase will involve narrowing the range of alternatives under consideration, and increasing degrees of detail.

The first phase of the study will be to make a preliminary evaluation of the project to determine whether a viable solution exists. This evaluation will involve scoping the range of alternatives to be considered, a preliminary shakeout of alternatives to determine likely candidates, and the evaluation of one or two of the best to demonstrate that a viable solution exists. At the end of this phase, an Internal Preliminary Finding Memorandum will be prepared to present the results of this phase and recommendations on proceeding with more detailed study. A detailed plan of work for the remainder of the study will also be prepared, building upon the experience gained in the preliminary phase.

The second phase will involve the formulation and evaluation of definite project alternatives, using the preliminary alternatives as a starting point. A preferred alternative will be further refined and ultimately submitted to Congress for consideration of construction authorization. Toward the end of this phase, when the alternatives have been formulated and evaluated and a preferred project plan has emerged, a Plan Formulation Working Document will be prepared to document the process alternative. Based on the environmental analysis to this point, and a public scoping meeting, a decision will be made during this phase as to whether an Environmental Statement is needed for the project, or whether a simpler environmental assessment will suffice.

The third phase will involve refinement of the preferred alternative to add all the details needed to make it complete and fully capable of implementation. During this phase the planning report and integrated environmental document will be prepared for official public distribution.

STUDY ACTIVITIES

The following are the major activities to be performed during this study.

Review of Existing Studies. The various planning studies that have been prepared in connection with the basin will be evaluated and desirable features will be used to prepare a preliminary array of alternatives.

Water Supply and Demand Projections. Projections of future water demand and supply in the basin need to be prepared and evaluated.

Groundwater Basin Analysis. The San Bernardino Groundwater Basin will be analyzed by means of available digital models. The various operating scenarios developed in connection with the various project alternatives would be analyzed both to help formulate the alternatives and to analyze their benefits. The groundwater management and use practices of numerous local water districts would need to be accounted for.

Santa Ana River Basin Analysis. The river basin would be analyzed using available digital models, and this operation coordinated with the analysis of groundwater basin analysis.

Water Rights Compilation. Water rights, adjudications and other agreements will be catalogued and abstracted in terms that permit their scrutiny in connection with the development and analysis of alternative management plans.

Water System Design and Costing. Water system features to move water from areas of high groundwater to other areas will be located and planning designs and cost estimates made.

Benefit Studies. The monetary benefits of the project will be estimated to determine the feasibility of the project.

Financial Analysis. A financial plan will be developed to show the amount of repayment required, and how funds for repayment would be generated locally.

Environmental Studies. Studies to determine the environmental impacts of the project will be completed. At present, the nature and scope of these potential impacts are not known. They will probably include some minor effects on wetlands, and the usual construction impacts.
The U.S. Fish and Wildlife Service will be asked to evaluate the effects the project will have on wildlife habitat, and to provide recommendations during plan formulation.

Social Analysis. This will determine the social impacts and effects that need to be considered in decision making and plan selection. The planning process is an alternative process in which alternatives are formulated and first subjected to a preliminary analysis, then refined and subjected to a more detailed analysis. Anywhere in the process changes may occur from suggestions or inconsistencies and generate additional alternatives to examine. In this framework, the activities cited above are done in increasing levels of detail as project plans gradually become more complete and refined.

GENERAL PRINCIPLES AND GUIDELINES

This will consist of formulating several meaningful alternative management plans and necessary project features. First, a plan or plans would be formulated to best use available water resources and serve local needs without regard to institutional constraints. Then institutional constraints would be overlaid to identify constraints that might be relaxed or changed to permit best use of local water resources. Finally, after a review of the results, several alternatives will be selected for evaluation and analysis.

General criteria for formulating alternatives are that: (1) Water originating in the basin be used in the basin; (2) Equity be achieved among basin water users, and (3) The plan must meet the tests of completeness, effectiveness, efficiency, and acceptability, as defined in Federal Principles and Guidelines for Planning Water Resources Projects.

This planning study and the formulation of a locally supported plan cannot be accomplished by Reclamation or any other agency alone. Reclamation will rely on a high degree of interaction and cooperation with local interests. At key times, personnel from SAWPA and its member agencies will work alongside Reclamation planners in the formulation and evaluation of alternatives.

In accord with Federal guidelines for planning, the public will be kept informed of study activities and comments and input on various issues will be sought for the study. A public meeting will need to be conducted to scope the environmental issues to be dealt with in the study, in order to comply with NEPA.

BUDGET

In-Kind Services: The local contribution to the San Bernardino Groundwater Project will consist partly of in-kind services performed or procured by SAWPA, its constituent agencies, or other local entities. Such in-kind services will include, but not be limited to, the following: (1) Compiling and abstracting water rights and related local legal issues; (2) Adaptations existing water supply operation models for use in this study, and providing them for use in the study; (3) Providing the services of various technical people from the staffs of local water agencies to work closely with Reclamation during various phases of the study; (4) Providing the services of outside experts in various phases of water management for participation with Reclamation planning activities as needed to assure a quality product; (5) Analyzing water quality aspects of project alternatives; (6) Making local arrangements for public meetings; and (7) Printing various public information and technical documents for use during the study.

RECOMMENDATIONS OF CALIFORNIA WATER COMMISSION

On March 3, 1989, the California Water Commission adopted the following recommendations for FY 89-90 funding. These projects are important to you and to the people of your district.

PROJECT	PRESIDENT'S BUDGET 1989-90	COMMISSION'S FINAL RCOMMENDATIONS 1989-90
Corps of Engineers		
Santa Ana River Mainstem	$20,000,000	$20,000,000
Santa Ana River and Orange County-Final Report	$ 255,000	$ 255,000
Bureau of Reclamation		
San Bernardino County (Day Creek) Loan	$ 9,160,000	$ 9,160,000
Santa Ana Watershed Management Study (San Bernardino Ground Water)	$ -	$ 200,000

The Commission reaffirmed its support of the appropriations recommended by the Colorado River Board for the Colorado River Salinity Control Project together with other programs of the Bureau of Reclamation which are being supported by the Colorado River Board.

When adopting its recommendations, the Commission was very conscious of recent changes in federal and state laws and policies regarding cost sharing and environmental considerations. To move water projects and programs forward under today's conditions, we all must attempt to develop balanced programs for flood control and water use for people, agriculture, industry, fish, wildlife, and other values, in as economical and practical a manner as possible.

We ask your support. We will provide any additional information you need. Thank you very much for your cooperation.

REDBANK AND FANCHER CREEKS, CA

STATEMENT OF ROBERT COLLINS, DIRECTOR, FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

Mr. HILL. Our next witness is Mr. Robert Collins.

Mr. COLLINS. Mr. Chairman, my name is Bob Collins and I am the senior member of the board of directors of the Fresno Metropolitan Flood Control District. I am also authorized by the Fresno Irrigation District of Fresno County and the cities of Fresno and Clovis.

We appreciate the committee's continued support for the Redbank and Fancher Creek project and request appropriation of $11.3 million allocated in the President's budget for the continuation of construction.

I thank you.

[The statement follows:]

STATEMENT OF ROBERT C. COLLINS, MEMBER, BOARD OF DIRECTORS, FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

My name is Bob Collins and I am a member of the Board of Directors of the Fresno Metropolitan Flood Control District of Fresno County, California, the local sponsor for the Redbank-Fancher Creeks Flood Control Project. I am authorized to speak on behalf of the County of Fresno, the Cities of Fresno and Clovis, and the Fresno Irrigation District. In addition, the State of California has enacted legislation approving the project and authorizing State financial participation.

We respectfully request continuing project construction be retained in the FY 89-90 budget in the sum of $11,300,000 as provided in the President's budget. This sum represents the third construction unit of the project which will provide flood protection to important areas near Fresno Air Terminal, southeast Fresno, and to key elements of the agricultural irrigation system.

The Redbank-Fancher Creeks Project was initially identified in the Big Dry Creek project investigation of 1940 and the resulting Fresno County Streams project authorization. In 1956, the Congress specifically authorized investigation of a project modification relating to the balance of the stream system. Unfortunately, federal funds were not appropriated until the disastrous 1969 floods.

The Redbank-Fancher Creeks Project has been proven environmentally sound and economically justified on the basis of flood damage prevention alone. Though other benefits accrue, they are not required to produce a positive benefit/cost ratio. The project will provide protection to 51,000 acres containing a population in excess of 120,000 (1982). The benefit/cost ratio reported in the 1986 GDM is 1.6:1 at an 8-5/8% interest rate, including CPE cost. Current estimates suggest the final benefit/cost ratio will approach 1.9/1.0.

Estimated average annual flood damages exceed $14,000,000 and affect both urban and agricultural land. The project will also protect an open irrigation canal system which transverses 210,000 acres of the world's most productive agricultural lands, Fresno County's gross annual production continually exceeding 2.0 billion dollars. The project will control the historic flooding which has seen the stream and canal systems overflow an average of once every four years.

The project was reported to Congress as House Document 98-147 and was authorized for construction through PL 99-662. The LCA has been executed and the local funding mechanisms put into place. To date the local sponsor has expended $5,861,000 in compliance with its LCA obligations to the Government. Because of the project's construction status, the requested federal appropriation is critical.

We appreciate the privilege of appearing before the Committee and the past support given the project. We urge your continued support and ask that our statement and the attached detailed presentation be made a part of the hearing record.

The people of the central county area of Fresno County, California are deeply appreciative of the opportunity to have the presentations of their representatives heard by the honored members of the Congress. While the Redbank-Fancher Creeks Flood Control Project is not large by some standards, it is critically important to the Fresno-Clovis metropolitan area which is the business center of the most productive agricultural county in the world, gross annual production continually exceeding 2.0 billion dollars.

This report, first submitted in May 1971, has been submitted annually to substantiate the continuing vital need for completion of the flood control works specified in the Redbank and Fancher Creeks project report.

AUTHORIZATION:

The Redbank-Fancher Creeks project is a modification of the existing Fresno County Streams, California authorization, incorporating the enlargement of the Big Dry Creek Dam and the containment of the balance of the stream group.

The Congress, on June 13, 1956, authorized the Corps of Engineers to reinvestigate the stream group project this following the major floods of 1955 and 1956. Unfortunately, funds were not provided and the Corps did not begin the investigation until the area had suffered its worst flooding in history during January and February 1969. The release of funds and the start of the investigation occurred in July 1970, some fourteen years after Congressional authorization.

During July 1980, the Board of Engineers of Rivers and Harbors forwarded to the Chief of the Corps of Engineers the completed project report and environmental impact report. The report was forwarded to the Congress as House Document 98-147, bearing the date January 24, 1984. The project was authorized for construction pursuant to PL 99-662 and the LCA was executed with the local sponsor (the Fresno Metropolitan Flood Control District) on August 1, 1987.

PROJECT LOCATION AND NEED:
Redbank, Fancher, and Big Dry Creeks of the Fresno County Stream Group, their tributaries and related streams addressed by the project, are located on the western slope of the Sierra Nevada mountains. The watershed encompasses some one hundred seventy-five square miles and generates storm runoff which flows through the heart of the metropolitan area. The flows impact directly on the open irrigation canal system which transverses some 210,000 acres of the world's most productive agricultural land and 95,000 acres of a densely developed urban community with a population in excess of 400,000.

It is currently estimated that the flood plain to be protected by the proposed project includes 51,000 acres with a population in excess of 120,000 (1982) and an estimated 1989 market value of 3.4 billion dollars. Total estimated average annual flood damages exceed $14,000,000 and affect both urban and agricultural properties.

HISTORY OF FLOODING:
As a result of the uncontrolled nature of the subject stream group, flooding has occurred frequently. Floods of record occurred in March 1938, December 1955, January 1969, February 1969, March 1978, and January 1983. In addition, available records indicate flooding of lesser severity occurred in 1914, 1915, 1916, 1937, 1958, 1965, 1972, 1977, and 1986 with the streams and irrigation canal system overtopping their banks on the average of once every four years.

Although the floods of March 1978, January 1983, and February 1986 were of a lesser magnitude than those of 1969, thousands of dollars in damages to private homes, public roads, irrigation facilities and hundreds of acres of prime agricultural lands were experienced. Such floods again demonstrated the urgent need for final construction of the Redbank-Fancher Creeks Project.

LOCAL SUPPORT:
Following the floods of January and February 1969, the Fresno area was declared a federal disaster area. With the realization millions of dollars in flood damage could have been prevented and that a recurrence of such floods would be even more devastating, a public hearing on the needed flood control works was held on February 18, 1969. Hundreds of citizens representing some seventy-five public and private organizations met and drafted resolutions to the U. S. Army Corps of Engineers and legislative represenatives urging active pursuit of the Redbank-Fancher Creeks Flood Control Project. Subsequently, the County of Fresno, the Cities of Fresno and Clovis, the Fresno Metropolitan Flood Control District, and the Fresno Irrigation District, authorized direct work with the Corps of Engineers and the Congress to secure adequate flood protection for the Fresno-Clovis metropolitan area.

In an effort to ensure the availability of lands needed for the required flood control structures, the County of Fresno acting jointly with the Flood Control District did, in 1974, effect open-space and conservation zoning of approximately 500 acres. In addition, the Cities of Clovis and Fresno, the County of Fresno, and the Flood Control District, signed contracts providing advanced funding to acquire the necessary project lands.

Relatedly, the California Water Commission has historically supported and continues to support the project. In addition, the State Reclamation Board submitted a supporting letter of intent for local assurances. Further, the California Legislature has enacted and the Governor has signed legislation authorizing State support of and financial participation in the project.

At the local level, a broadly based Citizens Project Advisory Committee was created by the Flood Control District. The Committee and the sixteen community organizations and agencies it represented reviewed and confirmed the project's need and design. The committee has also structured a financing plan to ensure the availability of the required local cost share and the equitable distribution of those costs.

ENVIRONMENTAL CONSIDERATIONS:
The federal project Environmental Impact Statement was finalized in July 1980 following a public hearing held in the project area by the Local Sponsor and the U. S. Army Corps

of Engineers. Testimony submitted during the hearing indicated there were no areas of controversy associated with the project or its limited environmental impact. In summary, the testimony confirmed the accuracy of the Draft Environmental Impact Statement in identifying only limited impacts and the adequacy of the proposed mitigation measures.

In Addition to the 1980 federal EIS, the Local Sponsor prepared a complete environmental impact report, dated July 1985, pursuant to the California Environmental Quality Act. That EIR and related subsequent reviews, including a supplemental environmental assessment support the previous findings, further indicating one project component will directly benefit the cleanup of a downstream agricultural chemical plant. Final construction design of the unit has been coordinated among state, local and federal interests to maximize those benefits. It is confirmed any adverse environmental impact which might be associated with the project would occur during the brief construction period. However, such impacts would be of a temporary nature and insignificant when compared with the permanent environmental and social benefits to be derived.

The congressional authorization of the project mandated that "The project shall include measures determined appropriate by the Secretary to minimize adverse effects on groundwater and to maximize benefits to groundwater, including groundwater recharge." The Corps of Engineers and the Flood Control District are now executing a supplemental LCA to address this Congressional mandate.

PROJECT FEASIBILITY AND FINANCING:

The completed project report, supplemented by additional engineering detail, substantiates the need for the project and identifies strong economic justification. The project costs and benefits, adjusted from the General Design Memorandum are as follows:

Total First Costs (1989)	$69,400,000	
Average Annual Costs (8-5/8%)		$6,211,300(*)
Total Average Annual Benefits:		
Flood Control	$ 9,316,950(*)	
Flood Proofing Cost Reduction	621,130(*)	
Total Average Annual Benefits		$9,938,080(*)
Benefit/Cost Ratio	1.6 to 1.0	

(*) Estimates based on 1989 Construction Cost Estimates

Noteworthy is the fact that the project is economically justified on the basis of flood damage reduction benefits alone. While other benefits are to be produced, they are not needed to produce a positive benefit/cost ratio. It should be noted that, while not included in the actual benefit calculations, the proposed project will create significant beneficial effects in the areas of water conservation, groundwater management, wildlife enhancement and recreation.

The distribution of the project costs, based on the new cost-sharing requirements, is as follows:

Federal Government (PL 99-662)	$51,900,000
State of California (SB 502)	12,250,000
Fresno Metropolitan Flood Control District (AB 2113) (Plus Annual O & M and Replacement)	5,250,000
Total Project Cost (1989)	$69,400,000

PROJECT COST SAVINGS:

It is significant to note that the Corps of Engineers and the local sponsor have focused efforts in maximizing project design and construction efficiency. These efforts have led to certain structural reductions and construction coordination which produced a near 30% reduction in estimated project costs. While each of the project units meets a separate benefit/cost test, each of the units is interdependent as to hydrological operation and construction and the savings noted above are not fully achievable without the integrated construction and operation of all project units.

PROJECT STATUS REVIEW:

Subsequent to the submission of the project report to the Congress as House Document 98-147 in January 1984, much has been accomplished. Congressional enactment of

PL 99-662 effected final project construction authorization, inclusive of flood control, recreation and water conservation purposes. The LCA was executed in a formal ceremony on August 1, 1987 and the first construction expenditures were approved by the President and the Congress in FY '87.

In FY '89 the third year of construction expenditures is scheduled. The construction activity completed to date, prior to FY '89, produced immediate flood protection benefits to the Friant-Kern Canal of the Bureau of Reclamation's important Central Valley Project. The President's 1989-90 budget proposes fourth year construction funding in the amount of $11,300,000. This work will provide flood protection benefits to important areas in the vicinity of Fresno Air Terminal, southeast Fresno, and to key elements of the agricultural irrigation system.

In coordination with the Government's project work schedule, the Flood Control District implemented the local project funding mechanisms in 1987-88, accumulating the funds required pursuant to the cost-sharing requirements. The first local payments were made to the Government in 1987. Relatedly, land acquisitions required for all phases of the project are now in excess of 80% complete. To date the Local Sponsor has expended $5,861,000 in compliance with its LCA obligations to the Government.

CONCLUSION: REQUEST FOR APPROPRIATION:

On June 13, 1988, thirty-two years had elapsed since Congress first authorized the proposed Redbank-Fancher Creeks Flood Control Project modification to the Fresno County Streams Project. The need for the project has been identified in a total of eight different studies and investigations performed at both the local and federal levels. The project feasibility investigation confirmed the project need and identified strong economic justification for project construction. Further, the more advanced and detailed technical analysis associated with the completed General Design Memorandum confirmed the project's need, economic strength, the previous recommendations of the Corps and the requests of the local community.

Because it is our belief that the Redbank-Fancher Creeks Flood Control Project has met all requirements for federal participation and meets all current standards of economic justification and environmental protection, we most respectfully urge favorable action by the Committee and the Congress in appropriating continued construction funding for the Redbank-Fancher Creeks Flood Control Project.

GUADALUPE RIVER, CA

STATEMENT OF JOE JUDGE, CHAIRMAN, BOARD OF DIRECTORS, SANTA CLARA VALLEY WATER DISTRICT

Mr. HILL. Thank you very much.

Our next witness is Mr. Joe Judge.

Mr. JUDGE. Mr. Chairman, I am Joe Judge, chairman, board of directors of the Santa Clara Valley Water District. I have prepared three statements which I ask be made part of the record.

Mr. JUDGE. In summary we urge your support of two items of the President's budget and one augmentation. I refer to first, continued investigation by the Corps of Engineers of the upper Guadalupe portion of the Guadalupe River and adjacent streams project.

The second is continued design of the Coyote Berryessa Creeks portion of the projects. Both are badly needed. Finally and most important, it is time, and I believe past time, to begin construction of flood control works on the Guadalupe River.

The President proposed $400,000 for preconstruction work only. We urge the addition of $1,100,000 to permit a construction start. I would at this time like to introduce Councilwoman Shirley Lewis of San Jose in support of that construction start.

[The statements follow:]

STATEMENTS OF JOE JUDGE

SUMMARY

THE STATEMENT URGES SUPPORT OF AN AUGMENTATION TO THE PRESIDENT'S 1989-90 BUDGET IN THE AMOUNT OF $1,100,000 TO PROVIDE A $1,500,000 CONSTRUCTION START OF THE GUADALUPE RIVER PROJECT.

BACKGROUND

The Guadalupe River includes the major waterway through the highly developed area of San Jose, California. Historically, the river has flooded the downtown areas of San Jose and Alviso beyond local capability to prevent. For example, estimated damages from a one percent or 100-year flood, which would inundate the urban center of San Jose is $71,800,000. It is estimated that a 50-year flood on this river would cause $43,500,000 worth of damage under existing conditions. The probability of such a flood occurring before implementation of flood prevention measures is quite high. A 50-year flood has an 18 percent chance of occurring during a 10-year period; a 100-year flood has about 10 percent chance of occurring during this same period. There is strong potential, therefore, that a damaging flood will occur before the problem can be resolved. The Guadalupe River had started to overflow its banks in April 1982 and January 1983 before the storm receded and avoided major damage. The Guadalupe River did overbank in February 1986 causing some damage to residences and business in the St. John and Pleasant Street area.

STUDY SYNOPSIS

In 1971, the community requested the Corps of Engineers to reactivate its earlier study. The Plan of Study was completed in 1973. The initial problem definition and alternative screening was completed in 1974. More detailed problem definition and alternative studies for the Guadalupe River were completed in 1978. The Stage 2 report was completed for the combined Guadalupe River, Coyote Creek and Baylands. The report at that time established the financial feasibility and federal interest in the Guadalupe River.

In an effort to accelerate the completion of this overall program, the local community through the Santa Clara Valley Water District has provided a substantial amount of technical and financial assistance since 1972. Special planning studies have been completed by the District for inclusion into the Corps' studies at a cost of over $430,000. The Guadalupe River project received authorization for

construction under the Water Resources Development Act of 1986. The General Design Memorandum (GDM) is drafted and scheduled for completion in August 1989. Therefore, to maintain project schedules construction must begin in fiscal year 1989-90.

The severe flood problem and the ominous threat of future damages has forced the local community to initiate local projects within the Corps project reach and reaches downstream of the Corps limits. In excess of $16 million has been spent on the planning, design and construction of such improvements to date.

FY 1989 FUNDING

The 1989 Budget included $611,000 to complete the Preconstruction Engineering and Design (PE&D) on the Guadalupe River.

NECESSARY FY 1990 FUNDING

Funding for the Guadalupe River project during 1990 in the amount of $1,500,000 for construction start is essential to providing critically needed flood protection to the metropolitan area of San Jose and the North San Jose community of Alviso. Only $400,000 is included in the President's 1989-90 Budget for PE&D.

RECOMMENDATION

Based upon the present high flood risk and potential damage from the Guadalupe River, it is urgently requested that the President's 1989-90 Budget be augmented in the amount of $1,100,000 to enable a $1,500,000 construction start of the Guadalupe River project.

SUMMARY

THE STATEMENT SUPPORTS THE PRESIDENT'S 1989-90 BUDGET IN THE AMOUNT OF $800,000 TO CONTINUE DESIGN OF THE COYOTE/BERRYESSA CREEKS PORTION OF THE GUADALUPE RIVER AND ADJACENT STREAMS PROJECT.

BACKGROUND

The Coyote and Berryessa Creeks investigation was authorized by Congress in 1941 under the Guadalupe River and Adjacent Streams authority. Coyote Creek is one of the two major waterways that flow through the highly urbanized areas of San Jose, Milpitas and Santa Clara County, California. Berryessa Creek flows through a small portion of San Jose and the growing community of Milpitas. Historically, Coyote Creek has flooded the north San Jose community of Alviso beyond local

capability to prevent. Damages on Coyote Creek would be $114 million during the 1 percent event to the north San Jose and Milpitas area. Berryessa Creek would cause $20 million in damage to the homes and industry of Milpitas. The probability of a large flood occurring before implementation of flood prevention measures is quite high. A 50-year flood has an 18 percent chance of occurring during a 10-year period; a 100-year flood has about 10 percent chance of occurring during this same period. There is strong potential, therefore, that a damaging flood will occur before the problem can be resolved. In January 1983, floodwaters escaped from Berryessa Creek and caused damage to several homes and businesses. Coyote Creek has caused the greater damages amounting to several million dollars, overbanking in April 1982 and again in March 1983. Hundreds of people were forced to evacuate their homes where floodwater stood for many days.

STUDY SYNOPSIS

In 1971, the community requested the Corps of Engineers to reactivate its earlier Guadalupe River and Adjacent Streams Study which included Coyote Creek. The Plan of Study was completed in 1973. The initial problem definition and alternative screening was completed in 1974. More detailed problem definition and alternative studies were completed in 1978. The third phase, study of freshwater flooding in the Baylands, (which included the lower reaches on Coyote Creek) was completed in 1979. In light of flooding in 1982 and 1983, the Corps refocused its study on Coyote Creek to address the inadequate level of protection provided by unstable levees. Berryessa Creek originally was a Section 205 study but was combined with Coyote Creek when the project cost exceeded the limits of that program.

In an effort to accelerate the completion of this overall program, the local community through the Santa Clara Valley Water District has provided a substantial amount of technical and financial assistance since 1972. Special planning studies have been completed by the District for inclusion into the Corps' studies. The Coyote/Berryessa Creek project received authorization for preconstruction planning, engineering and design under the Water Resources Development Act of 1986.

The severe flood problem and the ominous threat of future damages has forced the local community to initiate a local project on Coyote Creek in anticipation of future federal participation. Over $9 million has been spent on the planning, design and construction of improvements on Coyote Creek to date, which are planned for augmentation of and incorporation into the federal project.

FY 1989 FUNDING

The 1989 Budget included $800,000 to continue Preconstruction Engineering and Design (PE&D) on Coyote and Berryessa Creeks.

NECESSARY FY90 FUNDING

Funding for the Coyote/Berryessa Creek project during 1990 in the amount of $800,000 will be required to continue Preconstruction, Engineering and Design (PE&D).

RECOMMENDATION

Based upon the present high flood risk and potential damage from Coyote and Berryessa Creeks, it is urgently requested that the President's 1989-90 Budget be supported in the amount of $800,000 to continue design on Coyote and Berryessa Creeks.

SUMMARY

THE STATEMENT SUPPORTS THE PRESIDENT'S 1989-90 BUDGET IN THE AMOUNT OF $320,000 TO CONTINUE INVESTIGATION OF THE UPPER GUADALUPE PORTION OF THE GUADALUPE RIVER AND ADJACENT STREAMS PROJECT

BACKGROUND

The Guadalupe River is one of the two major waterways that flow through the highly urbanized area of Santa Clara County, California. Historically, the river has flooded the central district of San Jose and areas south beyond local capability to prevent. For example, the estimated damages from a one percent or 100-year flood, which would inundate the urban center of San Jose, is $71,800,000. Damages in the Upper Guadalupe River's densely residential floodplain south of Highway 280 would exceed $50 million. The probability of a large flood occurring before implementation of flood prevention measures is quite high. A 50-year flood has an 18 percent chance of occurring during a 10-year period; a 100-year flood has about 10 percent chance of occurring during this same period. There is strong potential, therefore, that a damaging flood will occur before the problem can be resolved. The Upper Guadalupe River near Alma Street had started to overflow its banks in February 1980 before the storm receded and avoided major damage. The Upper Guadalupe River did overbank in March 1982 and again in January 1983 causing damage to several residences and businesses in the Alma Street and Willow Street area.

STUDY SYNOPSIS

In 1971, the community requested the Corps of Engineers to reactivate its earlier study. The Plan of Study was completed in 1973. The initial problem definition and alternative screening was completed in 1974. More detailed problem definition and alternative studies for the Guadalupe River were completed in 1978. The 1980 Stage 2 report established the financial feasibility and federal interest in the Guadalupe River between Highway 880 and Highway 280. In light of flooding in 1982 and 1983, the local sponsors requested that the Corps reopen their study of the Upper Guadalupe River (upstream of Highway 280).

FY 1989 FUNDING

A feasibility investigation on the Upper Guadalupe River commenced during 1989 and with funding in the amount of $480,000.

NECESSARY FY90 FUNDING

Funding for the Upper Guadalupe project during 1990 in the amount of $320,000 to continue the feasibility study effort is essential to timely implementation of critically needed flood protection.

RECOMMENDATION

Based upon the present high flood risk and potential damage from the Upper Guadalupe River, it is urgently requested that the President's 1989-90 Budget be supported in the amount of $320,000 to continue the feasibility effort on the Upper Guadalupe River.

STATEMENT OF SHIRLEY LEWIS, VICE MAYOR, SAN JOSE, CA

Ms. LEWIS. Good afternoon. I am here to add the city of San Jose's voice in urging you to fund the construction augmentation for the Guadalupe flood control project for $1.5 million so that we can get this project off the drawing board and onto construction.

This project is extremely important to our city as it runs right down the middle of our downtown. And we need it to protect all of the investments of the private and public sector in our downtown renaissance. The city of San Jose, by 1990, will be the largest city in northern California and needs your support in this project.

This request is presented with the bipartisan support of our Congressman, Senators, and the support of the three agencies that have cooperatively developed this project over the past 6 years: the Santa Clara Valley Water District, Santa Clara County, and the city of San Jose.

Thank you and we look forward to your response.

[The statement follows:]

STATEMENT OF SHIRLEY LEWIS, SAN JOSE, CA, COUNCIL MEMBER

My name is Shirley Lewis and I am a City Council member representing the City of San Jose.

I would like to take this opportunity to urge the committee to fund construction augmentation in the amount of $1.5 million for the Guadalupe River Flood Control Project in the Fiscal Year 1990 budget.

A great deal is at stake for Downtown San Jose in the approval of this project funding: first and foremost is the safety of our commercial and residential populations; second the protection and security of the private and public investment that has brought about the renaissance of our Downtown; and finally the many years of hard work previously undertaken by a partnership of local agencies to develop the Guadalupe River Park Project.

The United States Army Corps of Engineers initiated studies associated with flood control alternatives on the Guadalupe River in the early 1940's due to our long history of flooding. The most recent overbankings of the Guadalupe River occurred in 1982, 1983, and again in 1986. Current damage estimates associated with a one percent (1%) event, or a 100 year flood level, are in excess of $72 million. In 1986, the project was finally authorized for construction in the Water Resources Act.

With your Subcommittee support, the project design phase was initiated. During the fiscal years 1986-1989, appropriations totalling approximately $2.2 million have been approved for the design phase. The project design is scheduled for completion in September, 1989. The next step is to move the Guadalupe River Flood Control Project from the drawing board to construction. In order to take that step, it is necessary to appropriate federal construction funds in the Fiscal Year 1990 Budget.

In partnership, the Santa Clara Valley Water District and the City of San Jose has spent over $16 million for land acquisition and the construction of associated compatible local flood control facilities. The Water District is also actively acquiring land rights for the anticipated federal project and is preparing the necessary plans and specifications for utility relocations and bridge modifications. It is estimated that these local costs, which the District is prepared to fund, are in excess of $20 million.

The Guadalupe River Flood Control Project has special importance to the City of San Jose. For the past six years, a partnership between the City, Santa Clara County, and the Santa Clara Valley Water District has sponsored a program to design a flood control improvement plan which serves as the backbone for a future Downtown linear park. In cooperation with the Santa Clara Valley Water District as local sponsor, the Guadalupe River Park program has been closely coordinated with the Sacramento District of the Corps of

Engineers. The channel improvements designed to accommodate the park have been carefully structured to meet the Corps of Engineers flood hydraulic requirements. We are pleased that the Corps of Engineers has put in the hard work to help us make possible a significant, attractive, and usable urban waterway through our downtown.

The Guadalupe River Park promises to be a significant amenity for our Downtown. In the most urban reaches of the river, the City of San Jose has made substantial investments in developments such as the museum park area, our Children's Discovery Museum and the Technology Center of Silicon Valley. Also on the river, the City is developing our community arena which provides a strong Downtown destination for people throughout the Santa Clara Valley.

Our experience with past flooding and our ongoing exposure points to the urgency of moving this project to construction. Integrating the channel improvement design to accommodate both flood safety and protection in the Downtown as well as the infrastructure of the Guadalupe River Park is sound leverage of public funds. Given the Corps of Engineers schedule, the Guadalupe River Flood Control improvements could begin construction is Spring 1990. Initiation of construction on this project is critical to the City.

Therefore, I respectfully urge your favorable consideration and endorsement of an appropriation augmentation of $1,500,000 in the Fiscal Year 1990 Budget for the Guadalupe River Flood Control Improvements.

Thank you for your attention to this matter. I look forward to your response.

SAN FELIPE DIVISION, CUP, CALIFORNIA

PREPARED STATEMENT

Mr. HILL. Thank you very much.

Mr. Albert Henley, general counsel for 30 for the Santa Clara Valley Water District has filed a statement.

[The statement follows:]

STATEMENT OF ALBERT THOMAS HENLEY, GENERAL COUNSEL, SANTA CLARA VALLEY WATER DISTRICT

SUMMARY

THE STATEMENT SUPPORTS THE PRESIDENT'S 1989-90 BUDGET IN THE AMOUNT OF $2,500,000 TO CONTINUE CONSTRUCTION OF THE SAN FELIPE DIVISION OF THE CENTRAL VALLEY PROJECT.

As you and the Committee are aware, the drought situation in California has reached crisis proportions. Statewide precipitation has been critically low for the third consecutive year with diminishing prospects for any improvement in 1989.

The Santa Clara Valley Water District under normal conditions receives one-half of its supply from groundwater sources. Our projections indicate that the groundwater yield in 1989 will be less than ten percent of normal. As to local surface water supplies, all ten of the District's reservoirs are essentially empty. These conditions are unprecedented over the past sixty years of water management in Santa Clara County.

The announcement on February 10 by the U.S. Bureau of Reclamation (Department of the Interior) that federal water deliveries to the District are to be reduced by fifty percent during the calendar year 1989 has seriously compounded our problem. We are now engaged in emergency studies and negotiations with the Bureau to demonstrate that this level of reduction creates an undue hardship for our residents. In our view, we must have some restoration of this drastic federal cutback. The Bureau has agreed to consider further information before making a final decision.

In mid-February, the District's Board of Directors formally declared a condition of drought and water shortage, and called for a forty-five percent reduction in water use, countywide, for the remainder of 1989. Even at this extraordinary level of reduction, the groundwater basin will experience further depletion to the extent that a recurrence of land surface subsidence is threatened. All cities, the County, and the water purveyors are cooperating with the District to implement necessary ordinances and delivery restrictions in response to the seriousness of the problem.

It is apparent that without the aid of Central Valley Project water last year, our local condition would be much worse today. We are very glad to acknowledge the support of this Committee through the years of San Felipe Division construction which made that vital resource available in time to help our need.

Finishing up the Division is now a prudent investment of Federal money and we ask your approval of the expenditure of $2,500,000 as stated in the Administration's Budget for Fiscal 1990.

We appreciate the courtesy of the Committee in receiving this statement.

STATEMENT OF RONALD COALE, VICE MAYOR, STOCKTON, CA

Mr. HILL. Our next witness, Mr. Ronald Coale.

Mr. COALE. Thank you Mr. Chairman.

I am Vice Mayor Ron Coale of the city of Stockton, CA. And I am authorized by the Stockton City Council to make this statement before your honorable body today. Also with me is my colleague, Councilman Al Bonner of the Stockton City Council.

The city of Stockton supports the Corps of Engineers and Bureau of Reclamation surveys, flood control and the reclamation projects in the following amounts: the American River watershed, $265,000; the Lower San Joaquin River clearing and snagging, $2 million; the Sacramento-San Joaquin delta investigation, $400,000; the San Joaquin River basin survey, Calaveras River, $300,000; the Auburn-Folsom South, $2 million; the Mokelumne River, $490,000; and the delta water management, $400,000.

Your consideration and endorsement of these requests are respectfully requested.

Thank you.

[The statement follows:]

STATEMENT OF RONALD COALE

I am Vice Mayor Ronald Coale of the City of Stockton, California, and am authorized by the Stockton City Council to make this statement before your honorable body today.

The City of Stockton supports the Corps of Engineers and Bureau of Reclamation surveys, flood control and reclamation projects in the following amounts:

1.	American River Watershed	$ 265,000
2.	Lower San Joaquin River Clearing and Snagging	2,000,000
3.	Sacramento/San Joaquin Delta Investigation	400,000
4.	San Joaquin River Basin Survey - Calaveras River	300,000
5.	Auburn-Folsom South	2,000,000
6.	Mokelumne River	490,000
7.	Delta Water Management	400,000

FLOOD CONTROL -- CORPS OF ENGINEERS

AMERICAN RIVER INVESTIGATION **$ 265,000**

The President's budget provides $265,000 for the American River Investigation. The City believes that its future water requirements, along with those of the rest of San Joaquin County needs to be addressed in this study.

SAN JOAQUIN RIVER BASIN-CALAVERAS RIVER **$ 300,000**

Due to the heavy rainfall in 1986, it was apparent that flood control protection for the Stockton Metropolitan area needs to be strengthened. Flow data available showed that runoff below New Hogan Reservoir caused near flood conditions in 1986. The city endorses the President's Budget and the California Water Commission's recommendation for additional work to investigate storage facilities below New Hogan Dam.

BUREAU OF RECLAMATION

AUBURN-FOLSOM SOUTH UNIT **$2,000,000**

The President's budget contains $1,700,000 for work in fiscal year 1989/90, and the City recommends the amount be increased to $2,000,000. Water supplies which can be made available by the Auburn Dam and Reservoir are essential to resolve minimum flow problems in the Lower American River and to provide a water supply to the Folsom South Canal service area.

The Most important program of the Auburn-South Unit is the Folsom South Canal, which now ends ten miles north of the San Joaquin County line. San Joaquin County completed a comprehensive groundwater management study of the portion of the County that would be served water from the Canal. This study has provided useful information on conjunctive use of groundwater in sustaining a developed agricultural area which is primarily in pasture, vineyard, row and orchard crops.

The Bureau should be conducting studies toward eventual extension of the Canal into San Joaquin County to deliver supplemental water. An additional $300,000 should be added to the study to include San Joaquin County's water needs in this analysis.

MOKELUMNE RIVER **$ 490,000**

This is a new start investigation of water resources problems being experienced along the Mokelumne River Basin (including the Cosumnes River Basin). The primary focus will be to address flood problems and water supply problems as well as fish and wildlife enhancement possibilities in the area. The City of Stockton supports this project because of its potential beneficial effects on our water basin.

DELTA WATER MANAGEMENT PROGRAM **$ 400,000**

This program is not in the 1989/90 President's budget but is supported by the California Water Commission. Stockton supports a budget of $400,000 for Fiscal Year 1989/90 to

continue with engineering and environmental investigations of the Delta.

LOWER SAN JOAQUIN RIVER CLEARING AND SNAGGING $2,000,000
Much of the Lower San Joaquin River channel upstream of Mossdale has become choked with sediment and debris as a result of upstream erosion and past floods. The City supports the President's budget to continue this channel clearing program on the river system so that it can carry its design flood flows without endangering adjacent properties.

SURVEY -- CORPS OF ENGINEERS

SACRAMENTO-SAN JOAQUIN DELTA INVESTIGATION $ 400,000
This study is to determine how the levees within the Sacramento-San Joaquin Delta can be rehabilitated to assure stability and provide seepage control. These levees provide protection to farm land and adjacent communities such as Stockton, and to waterways which are used extensively for boating and recreation. Some of the levees are essential in limiting the tidal effects which cause salt water intrusion into the Delta channels. The City supports the funds included in the President's budget and recommended by the California Water Commission.

Resolution No. 89-0186

STOCKTON CITY COUNCIL

WHEREAS, on April 5, 1989, appropriate committees of the Congress of the United States will conduct hearings to consider Federal Appropriations for flood control, reclamation, and navigational projects for fiscal year 1989-90; and

WHEREAS, several projects to be considered at said Congressional hearings will directly impact the City of Stockton and its environs; and

WHEREAS, the expeditious construction of said projects is required to protect the health, welfare and safety of the residents of this area; now, therefore,

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF STOCKTON, AS FOLLOWS:

1. That the City of Stockton does hereby support the appropriation by the Congress of the United States of funds for fiscal year 1989-90 for the planning, continuation and completion of flood control, reclamation, and navigational projects; namely, AMERICAN RIVER INVESTIGATION, MOKELUMNE RIVER, LOWER SAN JOAQUIN RIVER CLEARING AND SNAGGING, SACRAMENTO-SAN JOAQUIN DELTA INVESTIGATION, SAN JOAQUIN RIVER BASIN SURVEY-CALAVERAS RIVER, AUBURN-FOLSOM SOUTH, AND DELTA WATER MANAGEMENT PROGRAM.

2. That the representatives of the City of Stockton, Vice Mayor Ronald Coale and Councilmember Alfred B. Bonner as alternate, are authorized to appear before the Appropriations Committees concerning these projects, to present a Statement supporting the appropriations, a copy of which is attached hereto marked Exhibit "A" and by reference made a part hereof.

3. That said Statement is hereby approved as the official Statement of the City Council.

4. That the City Manager is directed to forward a copy of said Statement to the City of Stockton's representatives in the Senate and House of Representatives.

PASSED, APPROVED and ADOPTED this 27th day of MARCH, 1989.

/s/ BARBARA FASS

BARBARA FASS, Mayor
of the City of Stockton

ATTEST:

/s/ FRANCES HONG

FRANCES HONG, City Clerk
of the City of Stockton

Ayes: Councilmembers Bonner, Clayton, Linnerman, McGaughey, Oliva, Vice-Mayor Coale and Mayor Fass
Noes: None
Absent: Councilmembers Lang, Weaver

I, Frances Hong, certify that this document is a true and correct copy of Resolution No. 89-0186 adopted by the City Council of the City of Stockton on March 27, 19 89 and on file in the office of the City Clerk of the City of Stockton.

Frances Hong
Date: March 28, 1989 City Clerk of the City of Stockton
By Shirley Ortega
Deputy

Mr. HILL. Our next, Supervisor George Barber.

STATEMENT OF GEORGE BARBER, BOARD OF SUPERVISORS, SAN JOAQUIN COUNTY, CA

Mr. BARBER. Mr. Chairman, it is my pleasure to be with you this afternoon. I am accompanied by Supervisor Ed Simas, County Administrator Dave Rowlands, and County Counsel John Cheadle, at these appropriation hearings.

I might add that we are submitting basically a statement which will detail our request. I would like to highlight just two areas. One of them is the Auburn-Folsom unit where we are asking for an additional $300,000 for studies; and in the Bureau of Reclamation special investigations for $400,000.

That may be a budgetary item that is included somewhere else. It seems to have been omitted in this year's appropriation for one reason or another, so it may or not be an additional amount, but we want to call that to your attention because it is a cooperative venture between the State, the Bureau, and our county.

I thank you for the opportunity.

[The statement follows:]

STATEMENT OF GEORGE BARBER

My name is George Barber. I am a member of the Board of Supervisors of the County of San Joaquin, California.

The County of San Joaquin requests the following appropriations to be made to the Corps of Engineers and the Bureau of Reclamation for the fiscal year between October 1, 1989, and September 30, 1990, for the projects of concern to the County:

Corps of Engineers - Construction	
Lower San Joaquin River and Tributaries (Clearing and Snagging only)	$ 2,000,000
Corps of Engineers -Investigations	
American River Watershed	$ 265,000
Calaveras River	300,000
Mokelumne River	490,000
Sacramento-San Joaquin Delta Investigation	400,000
Bureau of Reclamation - Miscellaneous Project Facilities	
Auburn-Folsom South Unit	$ 1,700,000* (300,000)
Bureau of Reclamation - Special Investigations	
Delta Water Management Program	$ 0* (400,000)

* Requires add-on funding above President's budget.

DETAILED COMMENTS

Corps of Engineers - Construction

Lower San Joaquin River and Tributaries (Clearing and Snagging only) . . . . . $ 2,000,000

Much of the Lower San Joaquin River channel upstream of Mossdale has become choked with sediment and debris as a result of upstream erosion and past floods. It is essential to continue this channel clearing program on the river system so that is can

carry its design flood flows without endangering adjacent properties. We support the funds included in the President's budget for this essential work.

Corps of Engineers - Investigations

American River Watershed . . . . . $ 265,000

The studies proposed by the Corps of Engineers concerning the American River do not adequately provide for developing a water supply from the American River. Water supplies which can be made available by Auburn Dam or an alternative multiple-purpose reservoir are essential to the resolution of the minimum flow problems in the Lower American River and to provide water for use in the Folsom South Canal service area. The County has requested water from the American River under the Bureau of Reclamation American River marketing program. It is clear that all of the needs cannot be met without a multiple-purpose dam upstream from Folsom Dam.

The County believes that any dam being considered for the American River should consider a water supply purpose and San Joaquin County should be provided a high priority in obtaining any new water developed.

Calaveras River . . . . . $ 300,000

During February 1986, the Calaveras River system came extremely close to failing. Because of the large urban community depending upon this system it is essential that the Calaveras River be studied to determine what additional facilities are required to alleviate this critical flood problem. In addition, potential for increased water supply storage is also being investigated. Continued funding of this project is a high priority of San Joaquin County.

Mokelumne River . . . . . $ 490,000

This is a new start investigation of water resources problems being experienced along the Mokelumne River Basin (including the Cosumnes River Basin). The primary focus will be

addressing flood problems and water supply problems as well as fish and wildlife enhancement possibilities in the area. San Joaquin County strongly supports this project as being essential to interfacing with other ongoing State and local water resources studies in our area.

Sacramento-San Joaquin Delta Investigation . . $ 400,000

This important flood control investigation is being conducted in coordination with the California State Department of Water Resources. The end result of the investigation will include flood control, water supply and environmental concerns such as riparian vegetation and water quality requirements.

Bureau of Reclamation - Miscellaneous Project Facilities

Auburn-Folsom South Unit . . . . . $ 1,700,000
(300,000)

We are concerned that this study is not properly evaluating or considering the critical water needs of San Joaquin County. The current focus of the study is to not supply any water south of Sacramento County. We strongly urge that the study be directed to consider the extension of the Folsom South Canal and the provision for water supply for San Joaquin County. We request $300,000 be added to the budget to support these additional investigations.

Bureau of Reclamation - Special Investigations

Delta Water Management Program . . . . . $ 0
(400,000)

This critically important program was not included in the President's budget for FY 89-90. The purpose of the program is to support and participate with the Department of Water Resources in its various Delta investigations. The program supports engineering and environmental investigations of the north, west and south Delta. The emphasis is on water quality, water levels, flood control, and environmental benefits. San Joaquin County strongly urges that $400,000 be included in the budget so that this program can continue.

DRY CREEK (WARM SPRINGS LAKE), CA

PREPARED STATEMENT

Mr. HILL. Thank you.

Mr. Robert Beach, general manager, Sonoma County Water Agency, accompanied by Supervisor Esposti, has filed a statement.

STATEMENT OF ROBERT F. BEACH, GENERAL MANAGER, SONOMA COUNTY WATER AGENCY

Mr. Chairman and Members of the Subcommittee — I am Robert F. Beach, General Manager of the Sonoma County Water Agency (State of California). We urge that the Subcommittee include the sum of $3.95 million in the proposed budget for the Dry Creek (Warm Springs Dam) project in Sonoma County, California.

For the past twenty-eight years we have annually represented to you our support for the Warm Springs Dam project. We have recounted floods and droughts and described the benefits that would flow from the completion of this project. Those benefits are now a reality. However, one element of the project remains to be completed.

In 1959, at the time Coyote Valley Dam was constructed, it was believed that the higher Russian River streamflows that would result from the project would mitigate the loss of steelhead spawning and rearing areas which were cut off by the dam. As a result, no fish hatchery or other mitigating facilities were included in the project. It soon became evident that because of high water temperatures and other reasons, the anticipated benefits would not be realized.

For many years the lack of mitigation for the steelhead loss has been a matter of concern to the California Department of Fish and Game, conservation groups, and others. In 1974, Public Law 93-251 was enacted which authorized and directed the Corps of Engineers to compensate for these fish losses in the Russian River as part of the Warm Springs Dam Project, through measures such as expansion of the Don Clausen Fish Hatchery at Warm Springs Dam. The hatchery was subsequently constructed with space to accommodate additional incubators and associated equipment for the mitigation project.

In 1983, a study was authorized to define the required steelhead mitigation. The Corps of Engineers determined that the annual production of 4,000 adult steelhead trout was necessary. The Corps also determined that the most appropriate method would be an expansion of the Don Clausen Fish Hatchery at Warm Springs Dam and the construction of new trapping, egg-taking, and imprinting facilities. The total cost of the facilities is estimated to be $3.3 million plus additional sums for engineering, design, supervision and administration.

The Sacramento District has prepared the design memorandum, environmental assessment, and other documentation. The plans and specifications were completed in October 1987. Construction of the fish hatchery expansion is scheduled to be initiated and completed in FY 1990. The Sonoma County Water Agency has agreed to repay the local share of the project costs under the existing water supply contract for the Dry Creek (Warm Springs Dam) project.

We, therefore, request that the Subcommittee support the request of $3,950,000 included in the President's FY 1990 budget request for this project. We appreciate the support the Dry Creek (Warm Springs Dam) project has received from this Subcommittee over the years.

SALINAS VALLEY BASIN WATER MANAGEMENT STUDY

STATEMENT OF WILLIAM F. HURST, GENERAL MANAGER, MONTEREY COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Mr. HILL. Our next speaker is William Hurst.

Mr. HURST. Mr. Chairman, I am William Hurst, general manager of the Monterey County Flood Control and Water Conservation District. And we are seeking your support for $180,000 dollar cost-sharing funding for a general investigation study through the U.S. Bureau of Reclamation to develop a Salinas Valley water resource management plan.

The Salinas Valley has numerous threats including sea water intrusion which affects several of the cities in the valley, including a major military installation, Fort Ord.

And we thank you for any help that we can have on this project.

[The statement follows:]

STATEMENT OF WILLIAM F. HURST

The Monterey County Flood Control and Water Conservation District respectfully requests your committee to approve for Fiscal Year 1989-90, $180,000 for cost sharing funding for general investigation study through U.S. Bureau of Reclamation to develop the Salinas Valley Water Resource Management Plan. The Study will be conducted in a three year period at a total cost of $1,000,000 to be shared in equal amounts by the Bureau of Reclamation and the District.

The Salinas Valley Groundwater Basin, which is located on the Central Coast of California containing 640,000 acres of fertile farm land, is currently threatened by overdraft causing seawater intrusion and declining groundwater tables. In addition, there is a nitrate contamination problem and a continuously increasing demand for water supply for agricultural, municipal, and industrial uses. This rapidly increasing and competing demand for the existing limited supply and usable quality water has created an urgent need to develop a long range Salinas Valley Groundwater Basin Management Plan. This Basin Management Plan will provide guidance for management options in preserving and providing water supply in an equitable manner for beneficial uses to both agricultural and growing municipal and industrial uses.

The Salinas Valley is nearly 100% dependent on groundwater supply to meet the demands of all agricultural, municipal, and industrial needs. Intensively irrigated agriculture operations is the mainstay of the local economy. The Salinas Valley Groundwater Basin is also the sole provider of water to the Federal U.S. Army Installation located at Fort Ord, with a base population of about 23,000. Recently Fort Ord abandoned their groundwater wells near the coast due to seawater intrusion and drilled new wells inland adjacent to intensively irrigated agricultural lands. The farm economy in the Valley is not in a condition to bear the total cost of the investigation study to develop the sorely needed Basin Management Plan.

Your assistance in providing the District the resources to stop the seawater intrusion and to preserve the Salinas Valley Groundwater Basin will allow for the beneficial use of our precious water supply for future generations. The goal of this study is to promote controlled long term growth and economic prosperity of Monterey County and all of its citizens.

PROJECT TITLE: Salinas Valley Water Resources Management Study

OBJECTIVES: The objectives of the study are to:

1) Develop a long range "Water Resource Management Plan" for the Salinas Valley Water Basin.

2) Develop and analyze potential structural and non-structural alternatives for water supply and quality in the Salinas Valley Water Basin.

3) Optimize the beneficial use of existing and potential ground and surface water resources in the Salinas Valley Water Basin.

PROPOSAL: The Monterey County Flood Control and Water Conservation District (District) is seeking cost sharing Federal Funding from the U. S. Bureau of Reclamation for a three year planning study. Funding is requested under the Bureau's General Investigation Program designation for a new start project. The project will result in a detailed Water Resource Management Plan for the Salinas Valley area to conjunctively manage surface and groundwater, and solve water quality and water supply problems.

SUMMARY: The Salinas Valley in the County of Monterey California is totally dependent on groundwater supplies to meet the demands of agriculture, municipal and industrial users. With the increase of agricultural, municipal and industrial users, the Salinas Valley Water Basin is experiencing additional pressure on an already overdrafted Basin causing water levels to become lower and saltwater to continue intruding into the confined coastal aquifers. With more water demands than current supply, the District must ensure water quality and quantity for all the users in the Salinas Valley. To meet this broad objective, the District requires the following:

1) The development of a data base and computer analysis capability and a computerized groundwater model for the entire Salinas Valley Water Basin to analyze various water use scenarios for all users.

2) The development and analysis of potential structural and non-structural alternatives for addressing water supply and quality issues.

3) A Salinas Valley Water Basin Management Plan for the long term use of water for the Valley.

BACKGROUND AND PROBLEM: The Salinas Valley is a highly productive agricultural area of national importance. The valley provides a great percentage of domestically produced table crops and raw eater vegetables. The area is facing increased competition between water uses for what is an increasingly scarce resource.

The Salinas Valley is nearly 100% dependent on groundwater supplies to meet the demands of all agricultural, municipal and industrial users. Agricultural water requirements represents about 90% of the Salinas Valley Water Basin demands.

The Basin also provides water supply for the municipal and industrial needs of several small cities in the Salinas Valley with a combined population of about 200,000. In addition the Basin provides water needs for the Federal installation at Fort Ord with a base population of about 23,000. Recently, Fort Ord abandoned their water wells near the coast due to saltwater intrusion and drilled new wells inland at locations where there already exists intense irrigation pumping. The percentage of municipal and industrial demands is continuing to increase, placing additional pressure on an already overdrafted Basin.

Water quantity issues are further complicated by problems related to water quality. Groundwater protection has become increasingly important. Overdraft is resulting in declining water levels in the unconfined portions of the Basin, and is causing saltwater intrusion in the coastal aquifers. Nitrate contamination is also occurring at a rapid rate throughout the Salinas Basin, further serving to constrain the management options available for providing municipal and domestic supplies. Given the relative scarcity of the water resources, there is increasing competition between all beneficial uses.

The purpose of the work is to clarify the local water resource issues and define long term water management goals and objectives. This work will include definition of structural and non-structural alternatives for addressing the long term water resource issues. The goal is to promote the long term growth and economic prosperity of Monterey County and all of its citizens.

THREE YEAR DEVELOPMENT PLAN:

YEAR I: Plan Development

1) Identify issues, refine and prioritize problem statements and analyze constraints. Constraints can best be defined in two broad categories; technical and social. Technical water resources constraints regard issues of quality, quantity, timing, and location. Social issues involve economic, legal, organizational, and political constraints. Effective

management alternatives and goals should be developed based on technical and social constraints.

2) Develop data base and computer analysis capability. The utility of the existing District data and computer data base will be evaluated. The computational and analytical capability and tools available to the District will be assessed and specific analytical computer models will be developed, or existing models improved.

YEAR II: Alternatives Analysis

Generate structural and non-structural alternative solutions and define a range of methods for managing the available water supplies of usable quality.

Methods for achieving optimum use of existing supplies shall be investigated. Some of the alternatives to restoring the groundwater and hydrologic balance include:

Conjunctive use programs
Wastewater reclamation
Conservation Programs
Water importation through the San Felipe Project
Reservoir construction
Water Banking
Artificial recharge programs

These alternatives will be analyzed and compared using the technical and social constraints and issues developed in Year I.

YEAR III: Feasibility Study

Preparation of final Salinas Valley Water Basin Management Plan.

Detailed engineering and economic feasibility analysis and determination of project benefit cost ratio's. Investigation and development of financing methods.

Preparation of Draft Environmental Documents and response to public comments. Selection of preferred alternative. Adoption of final plan for implementation.

FUNDING ESTIMATES:

SOURCE	FY 89-90	FY 90-91	FY 91-92	AGENCY TOTALS
USBR	$180,000	$160,000	$160,000	$500,000
DISTRICT	$180,000	$160,000	$160,000	$500,000
FY TOTAL	$360,000	$320,000	$320,000	
PROJECT TOTAL				$1,000,000

Local cost sharing funds will be provided by the District and will consist of direct and "in kind".

Senator REID. You are welcome.

Mr. HILL. Thank you very much.

Mr. Chairman, that completes our testimony.

Senator REID. No wonder you came so well recommended.

Mr. HILL. Thank you.

Senator REID. You did a great job, Mr. Hill.

Mr. HILL. We certainly appreciate your time.

Senator REID. You did not use all your time and that means more money for you. [Laughter.]

Mr. HILL. We will go negative next time.

Thank you.

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Senator REID. I understand that there are several statements out which have yet to be submitted. Those will be made part of the record at this point.

[The statements follow:]

STATEMENT OF COACHELLA VALLEY WATER DISTRICT

As we enter the third year of a nationwide drought, it is inconceivable that the President's proposed budget does not include funds for atmospheric water resources research.

I urge you to use your influence to restore funding to the Bureau of Reclamation's Division of Atmospheric Resources research program which, over the years, has advanced precipitation management technology through weather modification studies.

This is extremely important in supplementing the overcommitted waters of the Colorado River Basin where it is estimated that snowpack enhancement could add nearly 2 million acre-feet of water a year. This international river meets much of the water needs of seven states and northern Baja California, Mexico.

Water purveyors in the seven states have expressed a willingness to provide $4.2 million in matching funds during the 1990 fiscal year if the federal government contributes $4.2 million toward funding of the Bureau of Reclamation program.

I urge you to work to assure the federal funds are restored for this vital water conservation research.

Whitewater River Stormwater Channel, Riverside, California

Most of the time the Whitewater River disappears quietly into the sand soon after entering Coachella Valley near Palm Springs in the southeastern California desert. Occasionally, though, it becomes a roaring torrent, threatening the 200,000 people and more than $10 billion in developed property located along its 50-mile-long flood plain.

Coachella Valley Water District and its predecessor Coachella Valley Stormwater District have worked since 1915 to channelize the river to protect valley residents and their property. The channelization has been effective in controlling the flash floods--limiting most damage to the flood control facilities themselves, which, consist of earthen banked channels designed to carry the largest anticipated flows safely around nine valley cities to the Salton Sea.

Repair to the earthen banks is costly after each flood, but private property generally is kept safe. Warm rains on mountain snows, however, occasionally create more threatening situations. In 1979, for instance, the channel flowed full for nine days and nights and Bulldozer operators from throughout Southern California were kept busy working 12-hour shifts in the flow to keep the earthen banks in place.

The U.S. Army Corps of Engineers helped Coachella Valley Water District battle that storm.

The Corps has studied the Whitewater River and its tributaries on and off since 1937. It completed the most recent study in 1979 without identifying a feasible solution to the flood problems. The Corps Coachella Valley Authority was established in 1982 to continue to seek a solution, but remained unfunded and must die under the provisions of the Water Resources Development Act of 1986 which removes authorization from studies which remain unfunded for five years.

Now, erosion proofing of Whitewater stormwater protective works appears to be a viable solution to reducing long term damages to facilities, but further study is needed.

A new Congressional resolution authorizing study is required before the Corps of

Engineers can institute further work. The Corps proposes a one year reconnaissance phase with 100 percent federal funding at an estimated cost of $340,000 followed by a two to three year feasibility phase with 50-50 cost sharing. The feasibility phase would focus on analysis of alternatives and development of a recommended plan.

To continue with this project vital to the safety of Coachella Valley lives and property, the California Water Commission joins Coachella Valley Water District and the Riverside County Flood Control and Water Conservation District in urging swift Congressional approval of this project.

STATEMENT OF SAN BENITO COUNTY WATER DISTRICT

The San Benito County Water District, located in Hollister, California, is a part of the Federal - Central Valley Project known as the San Felipe Division.

The Department of the Interior, Bureau of Reclamation has indicated the need for $2,500,000 for our Division and the President has supported this in his 1989-90 Budget. We are also aware of the Pajaro Valley Water Management Agency's request for an additional $400,000 appropriation to continue feasibility studies for the Watsonville Service Area.

The funds for San Benito County have been earmarked for two specific projects. The first being the installation of a corrosion control system for our Hollister Conduit. The Conduit is basically a 60" cement lined steel pipe which is subject to extensive corrosion under certain soil conditions. Although it was not originally known if corrosion protection would be needed on our system, the Bureau has determined that unacceptable levels of deterioration are taking place. In order to protect the structural integrity of the Conduit, they have specified a system known as Cathodic Protection. Although the cost is $300,000, it is known to be a highly efficient and economical means of corrosion control.

The second, even more critical project, is the repair of San Justo Reservoir which is also a Federal facility. The Reservoir, which was completed in 1987, has developed a leak through a sand seam that was not discovered during pre-construction investigations. This seepage has caused a number of landslides outside of the Reservoir and is inundating adjacent property. The $2.2 million needed to continue the repairs of this facility is of the upmost importance to both the United States and San Benito County.

Although we are unable to attend the April 5, 1989 Hearing before your Committee, you will hear support for our request from the California Water Commission and other members of the San Felipe Division.

We respectfully request your support for the $2.9 million needed for our Division.

If I can provide you with any further information, please don't hesitate to contact me.

LOS ANGELES COUNTY DEPARTMENT OF BEACHES AND HARBORS

The Board of Supervisors of the County of Los Angeles respectfully requests the serious consideration of the Congress of the United States for several projects urgently required to preserve and restore a vital and precious asset, the 75 mile shoreline of Los Angeles County, including the Marina del Rey Small Craft Harbor.

County beaches continue to be extremely vulnerable to future storms such as those which caused millions of dollars of damage in 1983 and 1988.

Healthy beaches are necessary, natural buffers to protect public facilities from the unpredictable forces of the ocean. Because Los Angeles County has one of the most heavily urbanized and developed shorelines in the country, it is important to fund and complete the studies and dredging project requested below in order to help prevent future damage to significant public investments in shoreline facilities.

California Storm and Tidal Wave Study (Approximate cost: $710,000)

To date, the California Storm and Tidal Wave Study has examined the San Diego County coast to document changes in the shoreline and compile a technical data base quantifying those changes. The data base provides information necessary for decisions regarding the restoration and maintenance of the shoreline. This segment of the California Coast is now almost complete. Funding of $710,000 should be approved in fiscal year 1990 to initiate monitoring and analysis work in the South Coast Region, which includes Orange and Los Angeles Counties. These funds would be in addition to any other appropriated funds targeted to finalize the San Diego County Coast Study.

The Los Angeles County coastline is a heavily populated region with the highest beach use in the United States. Vulnerable public and private property along the immediate coastline is continually threatened by severe storm damage. Therefore, information from this study will help local government make better land use and coastal protection decisions.

The Corps of Engineers should be directed to place emphasis on the reach of shoreline from the western Los Angeles County line to Dana Point in Orange County. The Corps should also be directed to accomplish the study at 100 percent Federal expense, since the previously authorized Federal study in San Diego County did not include local participation. Nevertheless, the County of Los Angeles will be expending $900,000 over the next three years for shoreline profiles, and has prepared coastline surveys and data collections since the 1940's. This information will be made available for the study.

Los Angeles Storm Damage Prevention Measures Study (Approximate cost: $316,000)

Unusually strong winter storms accompanied by high tides in 1983 and 1988 caused extensive damage to the Los Angeles County shoreline with estimated losses of over $21 million.

While much of the sand has returned to the County's beaches, they remain vulnerable to future stormswithout proper shore protection. A new Corps study should be authorized in order to help determine the most effective methods of storm damage preventio9n at the coastline portions of Los Angeles County.

Marina del Rey Dredging Projects (Approximate cost: $1,500,000)

Marina del Rey Small Craft Harbor is a vital asset to the County of Los Angeles and to the boating public. Currently, the harbor is in need of dredging. However, I have been informed of a proposed elimination of Federal funding, for Operation and Maintenance suppo·t to small harbors with less than 25,000 annual commercial tonnage, which would apply to Marina del Rey and 10 other small harbors in California. For Marina del Rey Harbor, the assumption of 100 percent of dredging costs would produce a great hardship, since our planning and budget process was never designed to absorb such costs.

Marina del Rey Small Craft Harbor was built during the late 1950's as a joint-venture project involving Federal and County government. At that time the Federal government agreed to maintain the project design depths of the entrance and main channel of the harbor. This perpetual agreement allowed a Federal easement over the Main Channel for navigation waters of the United States. Now, in spite of this legal agreement the Corps of Engineers has taken a new position to eliminate the critically needed Operation and Maintenance funding.

The Corps FY 1989 budget includes $1.5 million targeted specifically for dredging Marina del Rey. I am requesting your assistance to assure Marina del Rey will be dredged during this fiscal year or else the $1.5 million be carried over to FY 1990. Further, I ask that you look closely at alternatives to reduce the Corps' Operation and Maintenance budget which would not impact smaller harbors.

Marina del Rey Breakwater Structural Analysis
(Approximate cost: $150,000

Recognizing the recent damage to the nearby Redondo Breakwater, I fully support the proposed structural analysis of the Marina del Rey detached breakwater under the Corps' Operational and Maintenance Program.

Any assistance you can offer will be greatly appreciated.

STATEMENT OF CALIFORNIA CENTRAL VALLEY FLOOD CONTROL ASSOCIATION

On April 5, 1989, your respective committees will receive testimony from various California entities on appropriations for 1989-90 funding for water and flood control programs.

We wish to advise you that the Board of Directors of this Association, on March 23, 1989, reviewed and approved a number of appropriation requests for the programs administered by the Corps of Engineers and the Bureau of Reclamation. In all cases we concur in the President's budget except for three program entities which we request full agumentations. They are as follows:

Corps of Engineers

Surveys

Sacramento River Restoration at Glenn Colusa I.D Intake	$ 360,000
San Joaquin River System - Sedimentation Investigation	$ 500,000

Construction

Sacramento River Levee Rehabilitation (in the vicinity of Sacramento)	3,000,000

The above respective survey items need immediate attention since they relate to the proper operation of the Glenn Colusa Irrigation District pumping plant which was constructed with Federal Loan Program funds and past design characteristics of the San Joaquin River system flows which are presently unattainable.

The above construction and rehabilitation work for levees near Sacramento is extremely important since they are old and have been found by the Corps of Engineers to be structurally inadequate to safeguard life and property for a metropolitan area. This work is estimated to cost about $24 million with non-federal financing by State and local interests providing about $8 million.

Our recommendations with funding amounts for other program items are as follows:

Corps of Engineers' Projects	000's $
I. Surveys	
A. Northern California Streams	
- American River Watershed	265
- Sacramento Metropolitan Area	375
- Yuba River Watershed	375
B. Sacramento-San Joaquin Delta Inv.	400
c. San Joaquin River Basin	
- Kings River - Pine Flat Dam	400
- Tule River	90
- Kaweah River	120
- Calaveras River	300
- Mokelumne River and Tributaries	490

II.	General Investigations	
	A. Cache Creek Upper Basin	300
	B. Caliente Creek	600
	C. Dry Creek	320
III.	Construction	
	A. Cache Creek Settling Basin	5,500
	B. Redbank and Fancher Creeks	11,300
	C. Fairfield Vicinity Streams	2,945
	D. Lower San Joaquin River and Tributaries	2,000
	E. Merced County Streams	1,100
	F. Sacramento River Bank Protection Project	7,500
	G. Sacramento River Flood Control Project	1,600
IV.	Operations and Maintenance	
	A. Inspection of Completed Works - Sacramento River Flood Control Project	900
	U. S. Bureau of Reclamation Projects	
	A. Auburn-Folsom South Unit	1,700

The above amounts agree with the President's budget.

In that we will not be available to present testimony; this Association. representing 80 Reclamation and Levee Districts, cities and counties in Northern California; request that this letter be included as a part of the Hearings Record.

STATEMENT OF SAN DIEGO COUNTY, CA

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, MY NAME IS ROGER HONBERGER. I AM THE WASHINGTON REPRESENTATIVE FOR THE COUNTY OF SAN DIEGO. I APPRECIATE THE OPPORTUNITY TO PRESENT THE FOLLOWING POSITIONS OF THE BOARD OF SUPERVISORS OF THE COUNTY OF SAN DIEGO REGARDING THREE WATER PROJECTS.

ON FEBRUARY 28, 1989, THE BOARD OF SUPERVISORS VOTED UNANIMOUSLY TO SUPPORT THE PRESIDENT'S BUDGET PROPOSAL FOR TWO PROJECTS: (1) THE IMPERIAL AND SAN DIEGO COUNTY STREAMS PROJECT, AND (2), THE SAN LUIS REY RIVER PROJECT. IN ADDITION, THE BOARD RESOLVED TO REQUEST THE CONGRESS TO APPROPRIATE FUNDS FOR THE SWEETWATER FLOOD CONTROL PROJECT UP TO FULL CAPABILITY OF THE U.S. ARMY CORPS OF ENGINEERS. NO FUNDS WERE REQUESTED IN THE PRESIDENT'S BUDGET RECOMMENDATION TO CONTINUE THIS IMPORTANT PROJECT.

THE SWEETWATER RIVER FLOOD CONTROL PROJECT IS PART OF A COMBINED HIGHWAY AND FLOOD CONTROL PROGRAM TO RELIEVE FLOODING IN THE LOWER SWEETWATER RIVER VALLEY, TO WIDEN INTERSTATE ROUTE 5, AND TO CONSTRUCT STATE ROUTE 54 BETWEEN INTERSTATE ROUTES 5 AND 805. THE PLAN FOR THE CHANNEL IMPROVEMENT PROJECT WAS ORIGINALLY APPROVED BY CONGRESS ON AUGUST 13, 1968 BY PUBLIC LAW 90-483. THE PROJECT WILL PROTECT HEAVILY URBANIZED AREAS FROM FLOODING AND RESULT IN THE ACQUISITION AND CONSERVATION OF 188 ACRES OF MARSHLAND.

I RESPECTFULLY REQUEST THAT THE ATTACHED BACKGROUND INFORMATION PREPARED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS ON THIS ISSUE BE INCLUDED AS PART OF MY TESTIMONY FOR THE RECORD OF THESE HEARINGS. THIS INFORMATION DESCRIBES HOW ALL THREE PROJECTS WILL AFFECT THE COUNTY AND ITS RESIDENTS IN THE SWEETWATER RIVER AREA.

THANK YOU, MR. CHAIRMAN, FOR ALLOWING ME TO ADDRESS THE COMMITTEE ON THE THREE SAN DIEGO COUNTY PROJECTS.

SUBJECT: SAN DIEGO COUNTY FLOOD CONTROL PROJECTS

On March 3, 1989 the California Water Commission is meeting on its final recommendations for Fiscal Year 1989\90. Recommended for funding are the San Luis Rey and the Imperial and San Diego County Streams Projects. Regrettably, the Sweetwater Flood Control Project is not recommended for funding.

The San Luis Rey River Project is located along the lower 7.2 miles of the San Luis Rey River in and around the City of Oceanside. The project includes 7.2 miles of flood control improvements and a 5-mile recreational bike trail.

The Imperial and San Diego Counties Streams Project is proposed by the Army Corps of Engineers to study the entire water shed basin which flows into the Salton Sea. As part of the project, the Corps will consider a flood control project for the Borrego Springs area.

SUBJECT: SWEETWATER FLOOD CONTROL PROJECT

The Sweetwater River channel improvement project is part of a combined highway and flood control program to relieve flooding in the lower Sweetwater River Valley, to widen Interstate Route 5, and to construct State Route 54 between Interstate 5 and 805. The plan for the channel improvement project was approved August 13, 1968, by Act of Congress, Public Law 483, 90th Congress, 2d session. The project is designed to control all floods up to and including the standard project flood. The original justification for the project was that flood flows cause damage along both Paradise Creek and the Sweetwater River and because those areas are heavily urbanized, it would be more expensive to relocate uses in the path of the standard project flood than to construct the flood control channel.

The principal features of the flood control part of the combined highway and flood control program include:

- The construction of about 3.2 miles of trapezoidal channel with earth bottom and riprap slopes generally occupying the median strip between east and west lanes of State Route 54.

- The acquisition and conservation of 188 acres of marshland (including 44 acres for mitigation).

- The construction of about 6 miles of equestrian, bicycle, and nature trails with associated facilities.

- The construction of five highway bridges, one recreation bridge, two utility bridges, and side drainage facilities.

- The relocation of utilities.

In addition, as part of the stipulated settlement for the Sierra Club vs. Marsh litigation, the U.S. Army Corps of Engineers (Corps) committed to enter into a Memorandum of Understanding with the Federal Highway Administration (FHWA) to delineate their respective mitigation responsibilities pursuant to the reasonable and prudent alternative in Revised Biological Opinion (1-1-78-F-14-R2).

Litigation

On July 13, 1987, the Sierra Club was successful in obtaining an injunction which stopped all work on the combined project for approximately 6 weeks. Following that 6 week stoppage, only certain elements of the project east of Interstate 5 were allowed to proceed. The work west of Interstate 5 was halted for an entire year. The California Department of Transportation (CalTrans) eliminated the elements of the project that were still being contested in court from their ongoing contractual agreements and had their contractors proceed with the work that was permitted by the court. The Corps' channelization work west of Interstate 5 was deleted from the ongoing contractual agreements. The construction delays and costs associated with the Sierra Club vs. Marsh litigation has caused the overall project budget to increase over the original funding.

Status

CalTrans will be bidding the last phase of highway construction in July 1989. That work will not include construction of the flood control channel. The funding for the completion of the highway work has not as yet been approved by the California Transportation Commission. CalTrans has met its mitigation requirement to convey title to properties previously acquired from Santa Fe Land Improvement Company to the United States.

The Memorandum of Understanding (MOU) between the Corps and the FHWA to delineate responsibilities for implementing the mitigation measures has not been executed. Following the execution of that MOU, additional funding to implement the mitigation measures will probably be required from both parties.

The flood control improvements to date provide 30-50 year flood protection which would provide less protection for the existing urban land uses from major flooding than the project as originally designed.

STATEMENT OF CONTRA COSTA COUNTY AND CONTRA COSTA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

SUMMARY

Project	Requested Amount	Remarks
1 - Walnut Creek	$3,618,000	Construction - President's Budget Recommendation - California Water Commission #37
2 - Wildcat-San Pablo Creeks	$1,000,000	Construction - President's Budget Recommendation- California Water Commission #38
3 - Walnut Creek Basin Restudy	$ 150,000	Planning - Corps of Engineer's preparation of feasibility reports on projects - California Water Commission #16

We, the Contra Costa County Board of Supervisors, would like to express the appreciation of Contra Costa County for the accomplishments made possible by your Committee's past appropriations for flood control projects which have had far-reaching benefits to the people of this county. Today we offer testimony in support of appropriations for fiscal year 1989-90 on three projects as follows:

Construction, Walnut Creek Project

We support the proposed budget amount of $3,618,000 to continue this project. This amount will allow completion of the construction of Contract #3 for the San Ramon Bypass Project. This work will complete the bypass of storm flows around the downtown area of the City of Walnut Creek, thereby eliminating a serious flood threat to this community.

Construction, Wildcat-San Pablo Creeks

We support the budgeted amount of $1,000,000 for construction of improvements on Wildcat and San Pablo Creeks. The completed work will provide much needed flood protection for the North Richmond area of Contra Costa County. This area has been plagued by continual flooding. Efforts by the County and community to rejuvenate this urbanized area have been ineffective due to the flooding problem. With completion of the channel improvements we feel confident that this area can be redeveloped to provide the quality of life for its residents that we desire for all residents of our County.

Planning, Walnut Creek Basin Restudy

We support an allocation of $150,000 to provide funding for the Corps of Engineers to commence advance engineering on five of the creeks authorized for study in the Walnut Creek Basin. This work will complete the project feasibility studies needed by the Corps of Engineers in the project authorization process. Consistent with the new federal cost sharing, our local Flood Control District will be providing matching funds to the federal government for the Corps of Engineer work.

LETTER FROM SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS

19 JAN 1989

Construction-Operations Division

Mr. Craig Winter, Harbor Master
Moss Landing Harbor District
P.O. Box 102
Moss Landing, California 95039

Dear Mr. Winter:

The recently released fiscal year 1990 budget reduces funding for operation and maintenance of low-use commercial and recreation navigation projects. Low-use commercial projects are defined for harbors, waterways and segments with less than 25,000 tons of commerce. The data reported to the Waterborne Commerce Statistics Center, for calendar year 1986 and 1987 are tabulated in the attached Enclosure 1. Based on the tabulation, your harbor is identified as Level 3, a low-use commercial project with less than 25,000 tons of commerce.

Please verify the tonnages in the above referenced Enclosure. If there are any discrepancies, please contact the Waterborne Commerce Statistics Center, P.O. Box 61280, New Orleans, Louisiana 70161. The listing is the preliminary domestic commerce, which does not include foreign tonnage.

Also furnished to you are forms, entitled, "RECORD OF ARRIVALS AND DEPARTURES OF VESSELS AT MARINE TERMINALS", which are to be completed and sent to the Waterborne Commerce Statistics Center for inclusion in their publication. A completed sample form is also included for your use. It should be emphasized that the tonnages reported in these forms are vital in the support of the dredging of your important fishing harbor and are one of the most important indicators to be used to determine Corps wide Operations and Maintenance budget priorities.

We would like to schedule a meeting at your convenience to discuss the significance of commercial tonnages in support of your fishing harbor. Please contact either Herb Cheong or Ted Bruch of my staff at (415) 974-0390.

Preliminary Domestic Commerce for the San Francisco District

PROJECT	COMMERCIAL FISH CY86 (SHORT TONS)	COMMERCIAL FISH CY87 (SHORT TONS)	PARTY BOAT PASSENGERS	NO. OF BOATS
NOYO RIVER	10,791	16,129	6,896	6
HUMBOLDT HARBOR & BAY	12,600	14,514	2,925	8
CRESCENT CITY HARBOR	11,842	11,585	2,274	5
S.F. HARBOR	10,79[illegible]	10,459	29,149	25
MONTEREY	8,823	8,204	33,481	17
BODEGA BAY	5,910	6,449	12,267	6
MOSS LANDING	7,00[illegible]	6,110	0	
HALFMOON BAY	3,6[illegible]	2,794	19,716	14
SAUSALITO	1,0[illegible]	1,935	22,151	17
OAKLAND INNER/OUTER HBR	1,5[illegible]	1,217	0	
SANTA CRUZ	2[illegible]	250	11,980	8
BERKELEY MARINA	[illegible]	37	14,672	14
RICHMOND HARBOR	[illegible]	20	10,748	7
SAN RAFAEL CREEK		3	1,102	
SAN LEANDRO MARINA		1	0	

Sincerely,

Jack E. Farless

Jack E. Farless,
Chief, Construction-Operations
Division

LETTER FROM MOSS LANDING MARINE LABORATORIES

February 15, 1989

Board of Commissioners
Moss Landing Harbor District
P.O. Box 10
Moss Landing, California 95039

Dear Sirs:

The following information is provided concerning the Research Vessel POINT SUR in order to show the significance of its operation on a local, state and national level. We strongly urge the Army Corps of Engineers to consider the operation of this vessel in its assessment of Moss Landing Harbor and the need for continued support of maintenance dredging.

The Research Vessel POINT SUR is owned by the National Science Foundation and is operated under a charter party agreement by the Moss Landing Marine Laboratories. The Laboratories are a branch of the California State University System. The operation of the POINT

SUR benefits both educational needs and scientific research needs. The major source of support for this research and education are two agencies of the Federal Government. The National Science Foundation is the federal agency that is responsible for supporting scientific research in a variety of areas. In addition to owning the vessel and its equipment they support a large portion of its operation. The U.S. NAVY uses the vessel through its programs at the Naval Postgraduate School in Monterey and through the direct support of researchers by the Office of Naval Research. This vessel is an important resource for the scientific community of not only this area but the entire nation.

Moss Landing is the only local harbor where the vessel can be operated efficiently. The POINT SUR is 135 ft long with a 32 ft beam and a draft of 9 ft. In order for the vessel to operate safely in and out of Moss Landing Harbor the harbor must be maintained in a properly dredged condition. Although the use of this vessel is not counted in an assessment of cargo landings it should be considered in an evaluation of the commercial significance of the harbor because of its importance to the local economy, to the California State educational system, and most importantly, to the Federal Government's requirements for Oceanographic Research.

A summary of fiscal support for the Research Vessel POINT SUR for calendar years 1987-1989 is attached. Thank you for your consideration of this information. If I can be of further assistance or answer any questions please contact me at 408-633-3534.

Sincerely,

J.M. Prince
Marine Superintendent

Summary of Fiscal Support for the
Oceanographic Research Vessel POINT SUR
CY 1987 - 1989

Ship Support	1987	1988
National Science Foundation	$926,633	$555,183
Naval Oceanographic Command	$450,000	$500,000
Office of Naval Research	$27,545	$97,500
U.S. Geological Service	$5,511	-
Moss Landing Marine Labs	$55,016	$86,658
Non-Government	$2,000	$3,500
TOTAL PROJECT SUPPORT	$1,466,835	$1,242,841

Projected Summary of 1989 Ship Support

Agency	Science Support	Days at Sea	Ship Support
National Science Foundation	$346,842	53	$328,600
NSF (equip & technicians)			$115,000
Naval Oceanographic Com.	-	71	$440,200
Office of Naval Research	$310,804	17	$105,400
Mont. Bay Aquar. Research Inst.	-	6	$37,200
Moss Landing Marine Lab	-	15	$93,000
TOTAL	$657,646	162	$1,119,400

LETTER FROM MOSS LANDING HARBOR DISTRICT

February 16, 1989

Jack Farless
Army Corps of Engineers
211 Main St.
San Francisco, CA 94105

Dear Jack,

You have indicated to me that the Corps will not dredge the Harbor channel due to the lack of funding. The Corps recently completed a survey of the channel and found one area on the south jetty that will need dredging this year.

On February 9, 1989, Dutra Construction was awarded the contract for the Moss Landing Harbor District Shore Protection Project which will incorporate dredging of the project area. Would the Corps of Engineers consider having Dutra Construction dredge, the one area in question, while they have their equipment in the Harbor? This would be at a lessor expense to the Corps then bringing in their own equipment. The Harbor District could apply for an emergency permit for this dredging.

I have been in contract with Dutra Construction regarding this proposal. They will put together a cost estimate of the extra dredging. I will contact you when I have the figures.

Please let my know if this is a workable proposal.

Sincerely,

Craig Winter

Craig Winter
Harbor Manager
Moss Landing Harbor District

STATEMENT OF MOSS LANDING HARBOR DISTRICT

February 17, 1989

Jack Farless
Army Corps of Engineers
211 Main St.
San Francisco, CA 94105

Dear Jack,

In regards to my letter dated February 16, 1989, Dutra Construction has returned a cost estimate to me on the additional dredging in the Harbor channel.

Estimated yardage	1200
Cost per Yard	$6.00
Estimated Cost	$72,000.00

Please let me know as soon as possible so that I can starting working on the necessary permits.

Sincerely,

Craig Winter
Harbor Manager
Moss Landing Harbor District

LETTER FROM MOSS LANDING HARBOR DISTRICT BOARD OF COMMISSSIONERS

February 22, 1989

General Sobke
Department of the Army,
San Francisco Division
Corps of Engineers
211 Main St.
San Francisco, California 94105

RE: Proposed Elimination of Federal Funding for low - use Harbors - As applied to Moss Landing Harbor

Dear General Sobke,

Recent advice from Chief Operations Division, Jack Farless is to the effect that as measured by commercial tonnage landed our Harbor is placed in Level 3, low - use commercial harbor. Thus it is proposed to us that Corps support of maintenance dredging will be ended as of fiscal year 1990.

While a measure of a harbors commercial tonnage landed is a way of sorting out important and less important Harbors and Ports, we wish to point out that, at least in our case, the importance of our Harbor is felt to be in at least three categories. These are:

- Industrial Activity
- Research and Education
- High Quality (salmon) Commercial Tonnage

The attached fact sheet and supporting documents indicate the major aspects of our Harbor in each of these categories, giving a somewhat more balanced view point of the role our Harbor plays than may be obtained by what we feel is a rather crude yardstick, fish tonnage alone.

Intangible values, while difficult to measure in dollars, should certainly be considered, as in the case of the Moss Landing Marine Laboratory activities and the upcoming cooperative and individual activities of Monterey Bay Aquarium Research Institute. These educational and research efforts may well outweigh in the long run, the economic values of commerce in much larger ports. The interest and funding of the Federal Government in these two organization is substantial.

Taken as a whole, we feel that our Harbor is quite an important segment of the local economy, and is obviously the Harbor of choice on the California Coast for recent activity in marine education and research.

We ask that the Corps of Engineers and the members of Congress give full consideration to the relative importance of Moss Landing Harbor.

Sincerely,

Gaif Shook,
Commissioner
Moss Landing Harbor District

MOSS LANDING HARBOR - 1988

FACT SHEET

Fish Landed 7,000 TONS (1988)

UP TO $50,000,000.00 ANNUALLY

Fiscal Support - Research Vessels, see attached sheets for
Moss Landing Marine Labs
Monterey Bay Aquarium Research Institute

Oil Landed at Pacific Gas and Electrical Plant

194,000 TONS (1988)
$20,200,000.00 VALUE

INDUSTRIAL REQUIREMENTS

P. G. & E. - Continuous high flow rate of cooling water for generating plant operation. In - Harbor Sea Water Intake.

National Refractories - Continuous high volume flow for cooling, processing. In - Harbor Sea Water Intake.

Auxiliary Uses of Harbor - Coast Guard - Harbor of refuge for disabled vessels fuel docks, boatyard, marine hardware and supplies.

LETTER FROM MONTEREY BAY AQUARIUM RESEARCH INSTITUTE

February 22, 1989

Moss Landing Harbor District
P.O. Box 10
Moss Landing, CA 95039

Dear Sirs:

In response to the U.S. Army Corp of Engineers' plans to eliminate the dredging of the federal channels in various West Coast harbors, we wish to encourage you in your stand for the continuation of the present status. The Corps of Engineers' plans, as we understand them, would have a serious effect on our use of the Moss Landing Harbor, would create a dangerous entrance for all users, and would disrupt the livelihood of the population of the district.

The plans of the Monterey Bay Aquarium Research Institute (MBARI) to use Moss Landing as a base were predicated on the availability of the deep-water channel for our research vessels, including our planned future SWATH research vessel, and the access to a safe harbor in time of storms. This safety feature would be destroyed in the event of silting of the harbor mouth, which presently requires dredging every three or four years to maintain its depth and width.

The Monterey Bay Aquarium Research Institute is a private organization which plans to bring together all the marine organizations on Monterey Bay (Moss Landing Marine Laboratory, the University of California-Santa Cruz's Long Marine Laboratory, Stanford University's Hopkins Marine Station, and the Naval Postgraduate School) to cooperate in their various research projects, and in turn create an outstanding research team for the understanding of Monterey Bay and the contiguous deep ocean.

An essential part of our research is the use of oceanographic vessels for this work, and especially for the deployment of our Remotely Operated Submersible Vehicle (ROV).

Our cooperation with the above-mentioned labs is being extended to cooperation with marine labs throughout the United States, including Woods Hole Oceanographic Institute (Massachusetts), Scripp's Institute of Oceanography (California), and Harbor Branch Oceanographic Institute (Florida), in order to provide a country-wide base for research.

Moss Landing is the site of MBARI's large (23,000 square ft.) marine technology building which is now being constructed. The harbor waterfront is to be used for the construction of a large concrete pier that will, when finished, be able to simultaneously accommodate three vessels in the 100 to 135 ft. range.

This pier will initially be the base for our vessel R/V POINT LOBOS and the Moss Landing Marine Laboratory vessel R/V POINT SUR. We also expect visiting vessels from Scripp's and other labs to use our facility as it will be the most substantial pier on the central California coast.

Our long-range plans and funding will make Monterey Bay a focal point for oceanographic research. Many of the research projects and all of the affiliated research vessels are funded by the federal government. The Monterey Bay Aquarium Research Institute and the other research institutions on the Bay are members of a federally-sponsored consortium (CENCAL) designed to promote the cooperative use of ocean-going research facilities. While these plans do not mean a great deal of ship traffic through Moss Landing Harbor, they do require a minimum capability for occasional access that would be adversely affected by harbor depth limitations. Thus, a consequence of the Corp of Engineers' decision would be to severely restrict the development of Monterey Bay as a center for oceanographic research.

We greatly appreciate your efforts to coordinate the responses of the interested parties to achieve a reversal of this projected policy. Please call on us at any time that we can be of assistance to you in this matter.

Sincerely,

Derek M. Baylis
Operations Director

LETTER FROM SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS

27 February 1989

Construction-Operations Division

Mr. Craig Winter, Harbor Manager
Moss Landing Harbor District
P.O. Box 10
Moss Landing, California 95039

Dear Mr. Winter:

Reference is made to your letters dated 16 & 17 February 1989, in which you indicated that one area near the south jetty which needs to be dredged and that you received a cost estimate from your dredging contractor.

As you know, Moss Landing Harbor is on a 3 year dredging cycle and was scheduled for FY 1990. It was not however included in the budget for FY 1990 due to overall reductions in the Corps Operations & Maintenance General Budget to support efforts at balancing the Federal budget. We do not have funds budgeted for this fiscal year but do not object to you performing the dredging with your own contractor as long as you get the necessary Corps and State permits for dredging and disposal of the material.

Please do not hesitate to contact us if you have any questions. You can reach me or my staff at (415) 974-0389.

Sincerely,

Jack L. Farless
Chief, Construction-Operations Division

LETTER FROM MOSS LANDING HARBOR DISTRICT

March 20, 1989

Jack Farless
Corps of Engineers
211 Main St.
San Francisco, CA 94105-1905

Dear Mr. Farless,

In reference to our recent correspondence regarding dredging of one area near the south jetty.

You have indicated that the Moss Landing Harbor District is on a three (3) year dredging cycle and was scheduled for fiscal year 1990. You further stated that you do not have funds budgeted for this fiscal year but do not object to us dredging the channel, with the proper permits, this year.

If, while we have our dredge contractor in the harbor, we opt to dredge at this time, would the Corps of Engineer reimburse the Harbor District for the expenses of dredging the channel from the 1990 budget if it were to be included in the 1990 budget?

Please advise, as this may be a workable solution.

Sincerely,

Craig Winter
Harbor Manager
Moss Landing Harbor District

LETTER FROM SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS

22 March 1989

Construction-Operations Division

Mr. Craig Winter, Harbor Manager
Moss Landing Harbor District
P.O. Box 10
Moss Landing, California 95039

Dear Mr. Winter:

Reference is made to your letter dated 20 March 1989, in which you asked if the Corps of Engineers received funds in FY 1990, could we reimburse the Moss Landing Harbor District for dredging accomplished this year.

At the present time we do not have funds available for Moss Landing Harbor for this Fiscal Year nor are funds scheduled for next Fiscal Year. However, if we do receive funds we will notify you at once. As we told you in our letter dated 27 February 1989, we originally had funds budgeted for FY 1990 for Moss Landing Harbor, but these funds were eliminated due to overall reductions in the Corps Operations and Maintance General Budget. We can not spend funds which are not budgeted nor can we spend funds, as in this case, for a different Fiscal Year.

Please do not hesitate to contact us if you have any questions. You can reach me or my staff at (415) 974-0389.

Sincerely,

Jack E. Farless
Chief, Construction-Operations
Division

LETTER FROM MOSS LANDING HARBOR DISTRICT

Honorable J. Bennett Johnston
Senate Subcommittee on Energy &
Water Development
131 Dirksen Senate Office Building
Washington, D C 20510

March 31, 1989

Dear Congressman,

The Corps of Engineers has been dredging Moss Landing Harbor since it was opened in 1945. We have been notified that due to a change in their qualifications (now being set at 25,000 tons of commerce) the dredging of our main channel has not been included in their 1990 budget.

In the past the Harbor has been scheduled for dredging at three year intervals. The next dredging would have occurred in 1990. The cost of the last dredging of the channel was in the 600,000 dollar bracket.

The Moss Landing Harbor District has a fishing fleet of 400 boats with approximately 6,000 tons of commerce which translates to an income of 24 million dollars annually.

Over the past 20 years the research within the Monterey Bay canyon area has increased tremendously. Moss Landing Harbor is the only harbor in the area that can support the large vessels of San Jose State University Marine Lab and the Monterey Bay Aquarium-Research Institute (MBARI).

The Harbor is also the host of two large manufacturing plants, one being National Refractories and the other is the Pacific Gas and Electric Power Plant.

National Refractories takes in 82,000 tons, yearly, of Magnesium Hydroxide from the water for resale. They are dependent on the waters of Moss Landing Harbor for the cooling system to operate their manufacturing operations.

Moss Landing Harbor is essential to the operation of Pacific Gas and Electric's oil off loading. A non-passable channel would definitely hinder this operation. The inability to receive oil would have a drastic effect on the entire Northern California electrical grid. They also are dependent on the waters of the harbor for the cooling system to operate their facilities.

The United States Coast Guard considers Moss Landing Harbor a "harbor of refuge". It is centrally located and it is accessible at all times where other harbors in the area may be closed due to weather. Because of the design of this harbor, compared to others in the area, large storms do not affect the inner waters of the Harbor making it possible to safely rescue and repair vessels in distress. The Coast Guard would consider the closing of the harbor to be a safety hazard for our area.

The Moss Landing Harbor District annual budget is approximately 800,000 dollars. With this amount of revenue the District would be unable to withstand the additional burden of dredging the main channel costing in excess of 600,000 dollars. Please note from the attached copies of correspondence that we have made every effort to convince the Corps of Engineers that this discontinuing of dredging would be an economic disaster for our area, possibly to the point of closure of the Harbor.

We do, understand that with the current budget restraints we will eventually be required to include a cost sharing program in our budget. We need the time to prepare for these costs. We have been given no reasonable prior notification and do not have the revenue to handle such cost.

It is my understanding that the only way for us to be included in the 1990 budget, is for your committee to instruct the Corps of Engineers to include our harbor in the budget. I also understand that your committee has not accepted the qualification being set at 25,000 tons of commerce. I urge you to instruct the Corps of Engineers to prepare a cost sharing program for future dredging.

Therefore, the Moss Landing Harbor District is seeking your support in changing the 1990 Corps of Engineers budget to include dredging in the Moss Landing Harbor. If you have any questions regarding the foregoing information please feel free to call.

Sincerely,

Craig L. Winter

Craig Winter
Harbor Manager
Moss Landing Harbor District

SAN LUIS REY RIVER, CA

STATEMENT OF ALEX DEUTSCH, SAN LUIS REY RIVER FLOOD CONTROL PROJECT

Senator REID. The final and concluding witness is Alex Deutsch of the San Luis Rey River flood control project.

Mr. DEUTSCH. Mr. Chairman?

Senator REID. Yes you have 5 minutes.

Mr. DEUTSCH. Thank you.

I obviously cannot convince you to save $10 million in 5 minutes, so I have turned in——

Senator REID. Put the microphone there in front of you, please.

Mr. DEUTSCH. I hope you have the reports.

Senator REID. We do; we have those. They are right here. And that will be made part of the record. We have all of that.

Mr. DEUTSCH. I just want to give you a few highlights of what I want to do.

No. 1, we have been holding meetings with the Corps and we have convinced the Corps—we did not have much convincing to do, they admit that a 400-foot bottom river is sufficient for the protection that the San Luis Rey River is supposed to give. As a matter of fact, the authorized plan approved by Congress in 1970 was 400 feet wide.

We want to prevent the city from wasting $10 million of the taxpayer's money. We want the U.S. Corps of Engineers to change its river plan to a 400-foot-wide river at the bottom.

We want 300 feet of this river, and here is the guts of our suggestion: we want 300 feet of our proposed river to be used for vegitation at Least Bells Vireo Habitat with a 100-foot open channel.

What we would like Congress to do is to make sure that all of the above can be accomplished without delay on the program to finish the San Luis Rey River flood control channel.

The rest of the documentation in here is done by experts proving our point. There are a couple things I want to read to you. I am sure I have time.

There is a 480-foot-wide channel, with 400 feet at the bottom, allows plenty on the sides, a road on the side, that comprises 417 acres. Ponding and the Least Bells Vireo controlled habitat is 80 acres; the Corps requires 835 acres.

Our proposal is 585 acres; 250 acres of valuable land can be saved at an average cost of $40,000 an acre; that's $10 million.

It is absolutely unnecessary to use that additional land. It came about as a result of an error. The Corps wanted a certain amount of land, which they are entitled to. Fish and wildlife added to that, overlooking the fact that they could use, by the nature of the river, they could use exactly the same land.

In fact, our proposal is to give them 300 feet of the 400-foot river, because any type of flood will clean the river out, and there is never any danger of overflowing.

I have with me and you have it in those proposals a map.

Senator REID. I have that before me.

Mr. DEUTSCH. Tell me when my 5 minutes is up.

Senator REID. How do you pronounce your last name.

Mr. DEUTSCH. Deutsch.

Senator REID. I understand the issue. The main question the committee has, or at least I should say that I have, is if the Corps opens that up again what does that mean?

Mr. DEUTSCH. You mean as far as delay is concerned?

Senator REID. No. If it is opened up again, what does it mean to the Fish and Wildlife, the consultation? Does that mean we start all over, there?

Mr. DEUTSCH. We had a meeting, the last meeting was a few weeks ago with the Corps when we wanted to make a presentation which I had made previously for the Corps.

The local gal who runs Fish and Wildlife said she would listen to the presentation only if there were another section 7 meeting. And the section 7 meeting would mean that the Corps would have to stop its work which it was currently doing.

So we wrote in to Fish and Wildlife in Washington and said if it is a minor change it would not increase the cost, it would not delay the program, go ahead and do it.

Now I have been out of the country. We have not pursued this. But what I would like to have Congress to do is check everything we say in here.

Senator REID. We will do that.

Mr. DEUTSCH. That 400 feet is wide, that Dr. Cheng who wrote this up is one of the outstanding hydrologists in the country and I am sure you'll find it. Furthermore, the Corps will admit that 400 feet is sufficient.

But we have to get the Corps and Fish and Wildlife to agree that there will not be any delay, and there should not be any delay because of the change.

You must understand that from Douglas Drive down to Waylan Way is only 400 feet.

Senator REID. Mr. Deutsch, does the Corps support what you want to do?

Mr. DEUTSCH. The staff has said that our 400 feet is right, but the answer is negative. They do not support. We have what is known as the NIH factor, and I am afraid that in the staff area of the Corps, not invented here——

Senator REID. OK.

Mr. DEUTSCH. And they will not deny—I have just gotten the letter from the Corps, they will not deny that 400 feet is sufficient, but they will not say that they control Fish and Wildlife.

Congress will have to tell—somebody will have to tell Fish and Wildlife, do not stop the program when we present it to them for investigation.

I am sure they will accept it because it is much superior to what they have now. If I had enough time I could explain it to you.

Senator REID. I think you have done an adequate job. The staff has all this information and you will be hearing from them if they have other questions. We will check with the Fish and Wildlife and the Corps of Engineers on the projects.

We understand how important it is to you and understand what an important project this is to the people of California. So we have to try to balance those equities and we will do our best, OK?

Mr. DEUTSCH. Thank you.

Senator REID. Thank you very much for your presentation. It was certainly adequate. I understand the situation and the staff understands it better than I do and it will be prepared to explain it to the full committee.

Thank you very much.

Mr. DEUTSCH. I am available and our engineers are available any time for this matter.

Senator REID. Mr. Deutsch, I appreciate very much your coming to Washington.

Mr. DEUTSCH. Thank you.

[The statement follows:]

STATEMENT OF ALEX DEUTSCH

1. We want to prevent the City from wasting $10,000,000 of the taxpayers money.
2. We want the U.S. Corps of Engineers to change its river plan to a 400-foot wide river which is superior hydrolically.
3. We want 300 feet of our proposed river to be used for vegetation of Least bells Vireo habitat with a 100-foot open channel.

All of the above can be accomplished without delay on the program to finish the San Luis Rey River Flood Control Channel.

The following pages are back-up material offering proof of what we are claiming.

LETTER FROM ALEX DEUTSCH

July 29, 1988

Colonel Tadahiko Ono
Colonel, Corps of Engineers
Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, Ca. 90053-2325

Dear Colonel Ono:

Enclosed is a typed-up document taken from my notes at our meeting on July 25th. I feel it is very important that we should follow up with another meeting where attending would be our hydraulic consultant, Dr. Howard Chang, and our biology consultant, Dr. Donald Bright.

We would like to show your staff the importance of a channel limited to a 400-foot width with managed and controlled habitat outside and adjacent to the levees.

I am sure that these two qualified men can add, in detail, to that which was presented on July 25th.

Respectfully,

Alex Deutsch

Alex Deutsch

AD:rb
enclosure

MEETING OF DEUTSCH, COLONEL ONO, MAYER BAGLEY

- July 25, 1988 -

I Purpose - Show compatibility of a 400 ft wide river with

1. Flood protection
2. Least bells vireo habitat area
3. Managed habitat areas adjacent to the river
4. Ponding areas

II Consulting experts used to support the biology consist of Dr Don Bright, for the river hydrology, Dr Howard Cheng. Both are recognized experts in their respective fields and are available to support and add to our position.

III President Reagan's directive of March 15, 1988--with its directive to all Government agencies is supported by our legal staff and we also have had advise and support from Pacific Legal Foundation.

IV We represent only the Deutsch landowner interest, but you can verify with our landowner neighbors Casson, Gallant, the Abby, Segal Brothers and Abel & Abondonado that they all agree with our position.

V DEUTSCH POSITION - The City of Oceanside, Corps of Engineers and all property owners adjacent to the river want flood protection. All the above mentioned landowners have spent their own monies and have 100-year or reasonable protection now. The Corps Plan wants to ignore that which has been built and replace with Corps construction or remove (on Abel & Abondonado property) the protection entirely. Deutsch position is to:

Pursue agreement reached on March 31, 1988, with Colonel Butler in Washington. (Present at meeting: Colonel Butler, Alex Deutsch and Mayor Larry Bagley).
(That which was agreed to at Meeting)

1. River was to be 400 ft wide at bottom--450 ft wide at top.

2. All major decisions to have present: the Corps, F&W's, City of Oceanside and Deutsch.

3. To be called modified single-levee but actually a double-levee channel.

4. Alex Deutsch was to drop his protest the next day (which was dropped) in front of the House and Senate Appropriation Sub Committees on Water Resources.

5. 100-year flood control would be examined and, if OK, would be used (requested by Mayor Bagley).

Basically, the Deutsch position, backed by their neighbors, is a 400 ft channel (with maximum economic use of the adjacent land). We also own the river and want the right to remove sand--sell it--use it, etc.

I We made two major presentations to the Corps--both were well received. Copies are in Corps possession. Don't want to burden you with another presentation, but do recommend you read both. I only want to present facts.

1. Flood Protection for 7.2 miles.

a. 400 ft wide channel is acceptable to all landowners.

b. 100-year flood control is all that is required for safety and the San Diego County.

c. 260 ft wide concrete channel OK for project flood--probably closer to 200 ft for 100-year flood.

d. For river protection, the 400 ft channel is all that is required for the project flood! Source: COE

Now a 400 ft channel with 100 ft open for the river flow--the rest, or 300 ft vegetated with willows, cottonwood, etc., and full of underbrush, is all that is needed for normal times. In the last 62-years, the large floods since 1916, say every 10-years average, would flow through without any effect on the channel--even though only 100 ft open, assume these floods to be 12,000 CFS. Should we have a flood of 25,000 CFS, most of the trees in the river and the resistent brush would wash out--leaving an empty channel, but no damage to the channel or adjacent land. Should we have a flood with 50,000 CFS--or approximately 100-year flood, the entire channel would be cleared of growing vegetation--thus ample flood protection.

2. Least bells vireo habitat. In discussions with biologists, reading the species Management Plan, the obvious least bells vireo habitat is in the river occupying 400 ft width by 7-miles. We made a photographic presentation once before which was knocked down by USFW. I now want to present it again, but modified, and I am sure it is now more acceptable to USFW--100 ft of meandering river and 300 ft of vegetation--mostly willows. It is my recommendation that 30-acres of least bells vireo trees be planted each year and removed and replanted at the end of 10-years. Look at the charts in the Management Plan showing the maximum nesting on trees 5-years old and the lack nesting on trees over 10-years old. Note: the river always hugging the nonscouring levee--with the 300 ft vegetated area on the scouring side. This will protect scouring.

3. Managed Habitat Areas. Almost as though someone planned it, there are areas adjacent to the 400 ft river area that would make these areas the best possible least bells vireo managed and controlled permanent habitat areas. These areas could be biologically architectured for maximum benefit to least bells vireos. These areas are:

a. From Fireside Channel to approximately 500 ft west of the Fousat Bridge on the south side of the river.

b. From about 1,000 ft east of the Abby Bridge on the north side of the river to within 100 ft of the Abby Bridge.

c. Also, on the south side 1,200 ft west of the Abby Bridge to 500 ft from Lorretta Street, this plan assumes these areas will be outside of and bordering the river--a system of controlling the water input from the river through the habitat and back to the river. Full controlled management is possible. Even if a large storm cleans out least bells vireo habitat inside the river, these managed habitates will still be there completely protected.

4. Ponding Areas. We apply the multiple use theory--the Fireside Channel will use the upper part of the Fireside habitat--Fousat Channel will pond in the Fousat habitat. Tully Canyon will pond in Tully least bells vireo habitat, and lower pond can use the habitat area between Hwy 76 and the south side levee.

TRANSPORTATION BRIDGES & ROADS

We want a bridge--as much as we know about the current Corps plans. We cannot put the bridge where it logically should be placed because we cannot get the roads to the bridge. The road from the bridge to Hwy 76 should be and could be moved back 300 ft from the present location, then turn to the east and join Airport Road.

400 FT CHANNEL--NOT 500 FT ON DEUTSCH PROPERTY

With our joint usage of a 400 ft channel for maximum satisfaction for both least bells vireo and safety, there is no need for a 500 ft channel. The extra 100 ft sought for by the Corps seriously damages the potential real estate value of about 30-acres of land.

The industrial land south of the levee is at a minimum depth now for a good multiple industrial layout. If the Corps removed 100 ft, the layout for a proper industrial subdivision would be hurt and our ability to have variable size lots would be greatly diminished. It is imperative that the location of the levee on the north and south side would remain where they are.

The Corps plan, as proposed and probably approved by the City, requires the taking of private property. The City does not yet have authority to condemn in the County--not until after annexation.

"Takings", which cannot be done through appraisal and negotiation, can be done in condemnation action by Government agencies acting by and through emminent domain. The City of Oceanside will be called on to exercise its power to condemn Deutsch land if Deutsch and the Corps cannot agree on what is to be taken and on the price for the land, and damages to the remainder of our property.

Prior to adopting a Condemnation Resolution, a public agency must adopt a "Resolution of Public Use and Necessity" in which the agency finds (based on evidence) that the property sought to be condemned is for a public benefit and that the particular parcel is needed for the project--no other is available, etc.

What we want that should be good for the City, Corps and USFW

1. A 400 ft wide river on bottom.
2. A 400 ft bridge across the river, 50 ft east of present Abby Bridge.
3. Combined ponding and managed least bells vireo habitat areas.
4. The right to the sand in the river when available.
5. Insistance that a Government agency will keep the 100 ft open river section to the proper grade and without any flow obstruction.
6. No Government obstruction to our roads on both sides of the river.

JOINT USE

A 400' wide river at the bottom is approved hydraulically by the Corps of Engineers. The U.S. Fish and Wildlife want additional river land for the Least bells Vireo. If we take separate land in the flood plane for both the U.S. Fish & Wildlife and U.S. Corp of Engineers totalling more than 400', we are dealing with an absurdity, BECAUSE both the Corps and the U.S. Fish and Wildlife have overlooked the fact that they can use the identical land for both purposes. The Corp uses the land for the flow of water, U.S. Fish and Wildlife uses the land for the habitat of the Least bells Vireo. Both should be the same. There is not the slightest conflict.

Dr. Chang's article proves without a doubt that the 400' width is sufficient for both hydraulics and the environment.

Dr. Don Bright's article uses U.S. Fish and Wildlife's arguments to prove that the 400' width is best suited for the habitat of the L.B.V. Dr. Bright also advocates the removal and re-planting of 10% of the 30,000' length of river every year, assuring maximum young trees with no trees over 10 years old for the Least bells Vireo.

U.S. ARMY CORP OF ENGINEERS

Proposal February 22, 1989

480-foot wide channel 400 feet at bottom x 7.2 miles long (37,872 feet) is equal to:	417 ac.
Ponding & Least bells Vireo controlled habitat:	80 ac.
Allowance for extra acres:	88 ac.
Total:	585 ac.
Corp requires:	835 ac.
Deutsch proposal	585 ac.
Acres Saved:	250 ac.

250 acre value, average $40,000 per acre, effects a saving of $10,000,000 for the American taxpayers.

ANALYSIS OF THE DEUTSCH PROPOSAL FOR LEAST BELL'S VIREO HABITAT AND FLOOD CONTROL MANAGEMENT PLAN FOR THE SAN LUIS REY RIVER

1. INTRODUCTION

The current plan for flood control and restoration of habitat for the federally listed endangered species Least Bell's Vireo (vireo) in the reaches of the San Luis Rey River between Murray Road and the Pacific Ocean is the result of a formal Section 7 consultation between the Army Corps of Engineers (COE) and the U.S. Fish and Wildlife Service (FWS). Generally known as the Modified Single Levee Plan, it will be referred to herein as the Plan.

Alex Deutsch is one of the individuals who owns property and existing facilities along the reach of the river which will be directly impacted by decisions regarding management of the river and the flood plain.

This document evaluates a proposal prepared by Deutsch, and determines that the Deutsch Proposal is better than the Plan. Further, the Plan can be modified without complete reexamination of the hydraulic and biotic factors previously considered.

2. THE COE/FWS PLAN

The COE intends to provide flood protection for a peak design discharge of 89,000 cubic feet per second (cfs) along the San Luis Rey River floodplain between Murray Road and the Pacific Ocean (COE GDM, 1987). The Plan's channel alterations are discussed below, working from Murray Road downstream towards the Pacific Ocean.

2.1 Pilgrim Creek to Foussat Street

From Pilgrim Creek downstream to the Foussat St. bridge (which is the nearest road crossing upstream of the Deutsch property), a levee will be constructed along the southern side of the river. An existing locally-constructed levee along the northern bank of the river, from Foussat St. upstream for approximately 0.6 mile, will be incorporated into the plan. The remaining unprotected area along the northern bank, up to the standard project flood line, will be purchased and retained as open space. Park Pond, to be located behind the southern levee, will cover 32.7 surface acres, and discharge back into the main channel by a 1320-foot long side channel. The channel width in this reach will be 400 feet with provision for "critical habitat" zones varying from approximately 100 to 500 feet wide between the 400-foot channel and the levee on the north bank. COE proposes to construct this strip of habitat as a terrace or step that is higher in elevation than the rest of the channel.

2.2 Foussat Street to Priory Road

From Foussat St. downstream to the Priory Rd. bridge (which is located immediately downstream of the Deutsch property) the Plan incorporates a double levee design. Existing levees will be destroyed and replaced. Middle Pond, comprised of 17.9 surface acres, will be located behind the southern levee, with a 1355-foot long side channel providing drainage back into the main channel. (NOTE: A subsequent change in the Plan has relocated this pond to the eastern end of the airport.) Just upstream of the Priory Rd. bridge along the northern side of the river, a 0.2 mile gap in the levee will open onto Tuley Canyon. Approximately 21 acres of land in this canyon will be purchased, with 5.5 to be vireo habitat, and the remainder used as buffer. Private land behind the northern levee will be filled to levee top, permitting sheetflow into the river. The channel in this reach is planned for a 400-foot width with an additional 100-foot-wide strip of habitat to be created on the south side of the river between the main 400-foot channel and the southern levee, comprising about 8 acres of habitat. COE proposes to construct this strip of habitat as a terrace or step that is higher in elevation than the rest of the channel.

2.3 Priory Road to Interstate 5

From Priory Rd. to Interstate 5, a 0.6 mile levee will be built along the northern side of the river. Lower Pond, consisting of 28.2 surface areas, will be located between the southern levee and the proposed Caltrans Route 76, configured to accomodate the highway and the Oceanside airport fan. This reach of the channel is designed with only a 100-foot wide bottom channel and a single levee along the south side.

2.4 Ponding Areas

The three ponds described above are part of a total of six ponding areas to be constructed as part of the larger project. Each pond would have a gated outlet to prevent the backflow of floodwaters from the river into the ponds. Although their primary

purpose is flood control, all but Middle Pond also will serve the secondary purpose of providing compensation for loss of wetland and riparian woodland habitat due to construction of the levees and other flood control structures.

3. THE DEUTSCH PROPOSAL

3.1 Uniform Channel

The Deutsch Proposal consists of keeping the distance between the tops of the levees a consistent 450 feet, and the distance between the bottoms of the levees a consistent 400 feet. There would be no variable-width, higher elevation steps for critical habitat zones. This is not considered a major engineering change to the Plan (Chang, 1989). One hundred feet of the channel bottom would be maintained as clear, unobstructed, river channel. Although the Plan's double-levee configuration would remain, no currently existing levees would be destroyed but instead would be re-built under this proposal. The remaining 300 feet of channel width would be maintained as vireo habitat, planted to willow and mulefat. Habitat areas would be managed by rotating the clearing and replanting of 30-acre segments so that none of the stands are older than 10 years. The configuration of planted areas and cleared channel would be designed so that the widest portions of the planted areas would be placed to protect the levees that are subject to the most scouring.

3.2 Ponding Areas

In addition to habitat within the river channel, the Deutsch Proposal includes four permanent habitat areas outside of the levees, to be maintained by diverting water from the main channel. These would be gated so as to receive water during all but the highest flood stages, during which the gates would be closed to preclude flooding. These additional habitat areas would be located as follows:

Area 1 North bank, from Foussat Bridge to about 2000 feet west of Douglas Drive (approx. 25 acres). This is in roughly the same location as the open space designated in the Plan.

Area 2 South bank, from about Fireside Channel to 500 feet west of Foussat Bridge (approx. 15 acres). This is in roughly the same location as Park Pond in the Plan.

Area 3 North bank, from 1000 feet east of Priory Road to 100 feet east of Priory Road (approx. 4.5 acres). This is in roughly the same location as the Tuley Canyon open space in the Plan.

Area 4 South bank, from 1200 feet west of Priory Road to 500 feet east of Lorretta Street (approx. 16 acres). This is in roughly the same location as Lower pond in the Plan.

Under the Deutsch proposal all four of these areas will provide managed habitat areas as well as control for runoff through a series of ponds to be created within these habitat areas. Runoff from the Fireside channel will be caught in a pond in the upper part of Area 2 above; Foussat channel runoff will pond in the lower part of Area 2; Tuley Canyon runoff will pond in Area 3; and San Luis Rey Road runoff will pond in Area 4. These pivotal habitat areas can be created without removal and reconstruction of existing levees or lessening of flood protection.

3.3 Habitat Management

Since vireos nest almost exclusively in trees younger than 10 years (SANDAG, Draft CSMP, 1989), a key feature of the Deutsch proposal is the rotational clearing of segments of habitat to ensure that the dense thickets of young growth which the vireo favors will not be replaced by over-mature specimens without appropriate understory. Clearing out patches within older stands will create the habitat edges between the canopy of older, taller specimens and younger shrubbier growth that the vireo prefers for nesting, while at the same time providing interior edges that are more protected from predation than exterior edges (Tom Keeney, personal communication, 1988).

Species to be encouraged under the Deutsch management regime include vireo-preferred native willows such as arroyo willow (Salix lasiolepis), black willow (S. goodingii), sandbar willow (S. hindsiana) and mulefat (Baccharis glutinosa) (SANDAG, Draft CSMP, 1989).

4. ANALYSIS AND COMPARISON OF THE TWO PLANS

According to the COE (COE GDM, 1987), "Environmental considerations for the least Bell's vireo were the reasons for modifying the recommended single levee plan. ... The modifications reflected in the Modified Single Levee Plan create a superior environmental plan as well as reducing the required real estate."

Interestingly enough, creation of a superior environmental plan and reducing the amount of real estate to be purchased from private landowners are two of the reasons the Deutsch Proposal should be given thorough consideration. Furthermore, and even more importantly, the Deutsch Proposal provides: (1) superior habitat for the vireo, (2) a reduction of 250 acres in the amount of private property to be purchased, and (3) superior flood protection.

4.1 Hydraulics

Since provision for flood control was the original impetus for alterations to the San Luis Rey River channel, the adequacy of the current Plan is critical. Chang (1989) raises a number of issues regarding the engineering design of the Plan. These issues are summarized briefly herein. See Chang (1989) for detailed comments on hydraulic design of the Plan.

4.1.1 Side Channel Vulnerability

In order to meet FWS habitat requirements as included in the Plan, the 400-foot wide river channel in the vicinity of the Deutsch property will be widened by the addition of a 100-foot wide side channel, which will be separated from the main channel as an elevated step. Theoretically, this should allow the development and protection of habitat at an elevation somewhat above the reach of scouring flows. However, Chang (1989) disagrees:

> "It is not clear how this small step will be maintained. Under a moderate or high flow, this step is expected to be destroyed. Protection of the step is handicapped by the fact that water can get behind the step. A part of the side channel is on the concave bank of the channel bend, along which severe scour is expected under the given channel curvature. ... The small step separating the central portion from the side portion is only a temporary feature, which may be maintained with large expenditure."

4.1.2 Hazards of a Wider Channel

Once the side channel step has disappeared, the effective channel width will be a full 500 feet. This increased width favors a more sinuous flow pattern and -- in addition to its potential for damage to critical habitat areas -- raises a serious problem in the area of flood control. According to Chang (1989), meandering streams:

> "... may attack the channel bank at a large angle, or even perpendicular to the channel bank. When this happens, a large scour hole usually develops near the bank protection. The scour hole can be very deep, deeper than the design toe-down depth, such that the toe of bank protection may be undermined to result in bank failure."

Thus on the basis of this consideration alone, the Plan is deficient. The Deutsch Proposal will correct several such deficiencies.

4.1.3 Increased Stability from a Narrower Channel

In contrast, the narrower 400-foot width in the Deutsch Proposal clearly favors channel stability (Chang, 1989). This proposal features same-elevation stands of habitat in a carefully-designed meandering channel. Such channels, as noted in Nunnally (1985), are typically "... more stable, provide a greater variety of flow conditions and aquatic habitat diversity, and are more visually appealing than straight channels."

4.1.4 Decreased Maintenance with a Narrower Channel

The Deutsch Proposal will not require the extensive (and expensive) channel profile maintenance work required by the Plan's stepped elevation design. Instead, as noted by Chang (1989) the channel bed profile "... will be allowed to adjust during flood events and it will not require maintenance grading when the transverse bed profile develops in the channel bend." The Deutsch Proposal provides for construction with bank protection compatible with the criterion of velocity or tractive force, with the toe-down of the bank protection extended <u>beyond</u> the potential channel bed scour. Grade control structures or streambed stabilizers will be employed, as currently spaced in the COE design, to maintain the equilibrium slope.

4.1.5 Adequacy of Channel Conveyance

Chang (1989) calculates that if the Deutsch Proposal is implemented, 10-year floods of 12,000 cfs would remain within the 100-foot wide cleared channel; 50-year floods of 25,000 cfs would breach the cleared channel and clear out much of the growth of willows and understory in the remaining 300 feet of channel; and a 100-year flood of 50,000 cfs would scour the entire 400-foot wide channel completely without overflowing the levees. The 400-foot channel width, including 100 feet of clear channel and 300 feet of vegetated channel, will have a composite average roughness coefficient of 0.04. This is still adequate to convey the COE's design flood. Thus the 400-foot wide channel not only provides superior meander control, but it also is adequate to convey the design flood even when 300 feet of its width is maintained as vireo-suitable willow riparian habitat. In contrast, the Plan's design is susceptible to extreme meander, undermining of the toe, and bank failure while providing only marginal strips for habitat.

4.2 Vireo Habitat

As a result of the Section 7 consultation, the FWS made a number of recommendations regarding a program of revegetation designed to create vireo quality habitat, directing that COE shall complete the work and that FWS will determine whether the habitat has attained the desired characteristics. FWS included numerous criteria by which to make this determination. These criteria include desirable proportions of tree canopy cover, shrub cover, herbaceous cover, open area, plant density and tree height (COE FSEA, 1988).

4.2.1 The Plan's Habitat Management Program

The revegetation regime set forth in the Plan, however, is not likely to attain quality vireo habitat. Whereas, the concepts incorporated in the Deutsch Proposal will provide the opportunity for development of good quality vireo habitat.

4.2.1.1 Within the 400-Foot Channel:

Within the 400-foot channel, COE flood control measures preclude establishment of vireo habitat (COE GDM, 1987) to the extent that:

> "...only flexible vegetation will be allowed in the 400-foot wide flood control zone. Height of vegetation is not of vital concern. However, the main governing criteria is its density and ability to bend with waterflow. ... Expected species of vegetation include bullrush, cattail and mulefat in the wet area; and shrubs such as buckwheat are expected in the drier areas. Generally, any wood perennial growth with a stem diameter greater than 0.75-inch will not be allowed, so willows, cottonwoods and other similar woody material will be cleared and grubbed when they reach an average diameter of 0.50-inch."

Since vireos prefer to nest in tree and shrub species such as willows and mulefat that can attain a trunk diameter of three inches or greater (COE FSEA, 1988), managing channel vegetation to promote bullrushes and cattails and to remove willows and larger trees will effectively prevent vireo habitat from developing anywhere within the 400-foot channel (COE FSEA, 1988). By contrast, the Deutsch Proposal will encourage vireo-quality willow growth across 300 feet (75%) of the 400-foot channel width.

According to the Plan, construction and clearing of the 400-foot channel would result in the removal of currently existing habitat, particularly along the south bank of the river in the vicinity of the Foussat St. bridge. This existing habitat apparently would be further damaged by construction of the elevated side channel where the habitat is somehow to be "preserved" or at least recreated. And finally, this existing habitat will be further fragmented by the levee which will separate it from the Park Pond habitat recreation project area. By contrast, the Deutsch Proposal would not require clearing out existing habitat but would instead provide for its preservation and maintainence both within the channel and in Ponding Area No. 2. As has been discussed previously, vegetational growth will not reduce the conveyance capacity of the channel below that of the design flood (Chang, 1989).

4.2.1.2. Within the Ponding Areas:

The Plan regarding vegetation in five of the six ponding areas is inadequate (COE GDM, 1987): "Growth will be unrestricted except for the inlets of the settling basin, which will be thoroughly cleaned as necessary." FWS (COE FSEA, 1988) requires only that the ponds have a "... land surface elevation and soil composition suitable to support willow riparian woodland vegetation...", and that "... revegetation and maintenance techniques be implemented that will encourage the long-term viability and vigor of the riparian plant species." COE's policy of unrestricted or unmanaged growth constitutes minimal compliance with FWS requirements.

The management of Middle Pond, however, is noteworthy, i.e., it is the exception. "It may be kept cleared of all vegetation and paved, if deemed prudent" (COE, GDM 1987). Middle Pond is situated immediately east of the Deutsch plant and the property is valuable commercial or industrial land. While paving the Pond has been permitted by FWS, to purchase the land at fair market value as mitigation and then to pave the area is clearly not the highest and best use of the property. Further, the 100-foot-wide strip of critical habitat to be created in the side channel along the south levee in the reach of the river adjoining the paved Pond would be so isolated as to be useless as vireo habitat. Thus neither Middle Pond nor the habitat strip will be used effectively and a more feasible alternative should be selected. (NOTE: Recently the COE and FWS modified the Plan so that the Pond is located in an area on the eastern end of the airport.)

4.2.1.3 Outside of the Channel:

The Plan calls for "unrestricted growth of a riparian habitat in those areas outside of the 400-foot wide cleared channel area" (COE GDM, 1987). COE relies on unassisted "natural" growth to create vireo habitat, and limits that growth to the vulnerable stepped critical habitat areas that lie outside of the 400-foot channel. By contrast, the Deutsch Proposal utilizes all but 100 feet within the 400-foot channel and uses a carefully managed rotation of clearing and replanting to create the desired habitat characteristics such as tree canopy cover, shrub cover and open area.

4.2.1.4 Critical Habitat Zones:

In the areas identified as critical habitat zones (whether naturally occurring or to be created in the narrow stepped zones between the flood channel and the levee), COE policy (COE GDM, 1987) states:

> "... unrestricted riparian growth will be permitted. All species will be allowed to grow undisturbed. Selective thinning will be permitted after coordination between COE and FWS ... if it is shown to be necessary for flood control and/or is consistent with the environmental assessment contained in this Supplemental Phase II GDM."

By contrast, the Deutsch Proposal makes use of a careful system of rotating habitat maintenance to ensure that overmaturation of willow thickets into less desirable stages does not occur.

4.3 Analysis of the Plan's Habitat Management Program

There are several problems with the overall habitat management regime incorporated by the Plan.

4.3.1 Unrestricted Growth Insufficiently Managed

Firstly, "unrestricted" growth is not likely to become ideal habitat by itself. For example, according to FWS, even though the existing wetland upstream from Murray Road has been left essentially undisturbed over the past 5 years except for clearing of a 75- to 150-foot wide strip each year for flood channel maintenance it has not developed high quality willow riparian woodland. Some of the area is freshwater marsh, and none of the acreage provides suitable habitat for the vireo at the present time (COE FSEA, 1988).

4.3.2 Thinning Inadequate to Recreate Habitat

Secondly, while some selective thinning may occur, flood control -- not vireo habitat -- remains the primary objective. However, mere selective thinning will not create the thickets and canopy-edged mosaic preferred by the vireo since thinning implies an even, overall reduction of cover. In contrast, the Deutsch Proposal provides for ideal riparian habitat because it will be managed to create those conditions (SANDAG, Draft CSMP, 1988) "associated with habitat used by the least Bell's vireo for nesting, including some tree canopy, well-developed shrub understory, the occurrence of habitat 'edges', tree stand ages from 2 to 10 years, and at least intermittent flowing water." The Deutsch Proposal calls for maintenance of this mosaic habitat pattern by clearing 30-acre patches of riparian growth on a 10-year rotational cycle so that no stand is older than 10 years and optimum-aged stands are present at all times. Maintenance work will be scheduled between September 15 and March 15 to avoid disturbing the vireo during nesting and breeding events. Large black willows and sycamores will not be removed so that they may provide the canopy required by the vireo. In essence, providing for unrestricted growth and simple thinning as described in the Plan is not sufficient to create the complex of successional stages required by the vireo.

4.3.3 100-Foot Width Fragments

While the side channel critical habitat zones to be created along various portions of the main channel vary in width both upstream and downstream of the Deutsch property, in the reach of the river which is adjacent to this property, only 100 feet of critical habitat is planned. This narrow zone to be created on a precarious in-channel step will not provide a sufficiently wide area of habitat for the vireo. But it will delete a sufficiently wide span from the adjacent property so as to render it unusable for other purposes and therefore less valuable.

A very small percentage of vireos nest in territories with the minimum width of 33 feet. The majority of birds prefer to nest in habitat areas of 150 to more than 800 feet (SANDAG, Draft CSMP 1988). Overall vireo territory size ranges from 0.5 to 4 acres (or 21,780 sq. ft. to 174,240 sq. ft.) While some of the strips of habitat provided in the side channels along the edges of the 400-foot channels will provide adequate territory width, the 100-foot strip planned along the Deutsch property will allow only narrow territory configurations which leave nests exposed to predators. In contrast, the 300-foot habitat widths provided by the Deutsch Proposal results in larger habitat areas. Thus open spaces created <u>within</u> the wider habitat will provide <u>protected</u> open spaces where the favored canopy edges are not exposed (Tom Keeney, personal communication, 1988). In contrast, thinning of the narrow strips of in-channel habitat will provide much less suitable nesting sites.

4.3.4 Benefits to Channel Maintenance From Tree Shade

Willows and other taller trees offer the additional benefit of providing shade over the cleared channel, which will hinder

establishment of aquatic and terrestrial vegetation that increases flow resistance (Nunnally, 1985), thus helping the channel remain clear and reducing maintenance costs.

4.4 Analysis of the Plan's Ponding Maintenance Program

4.4.1 Disadvantage of Irregular Flows

While both the Deutsch proposal and the current Plan call for ponding areas outside of the levees, management of the COE ponds is not likely to provide for the development of suitable or significant vireo habitat because of the irregularity of water flow. COE ponds are intended to receive water flows only during a flood, and then to release it rapidly back into the river (COE GDM, 1987). Also subject to irregular flow is the revegetation of the 5.5 acres at the mouth of Tuley Canyon called for by the Plan. It will be similarly vulnerable to flood damage during high flow conditions, and subject to dessication at other times. In contrast, the ponds in the Deutsch Proposal are designed to receive a regular flow of water under normal conditions and are cut off from the river channel only during a flood. Runoff water entering the ponding areas from behind the levees will join water being channeled through from the river.

4.4.2 Ponding Areas After a Flood

There is little advantage offered by the Plan's ponding areas since they will receive very little water except during flood conditions. Accordingly, they will support lower quality willow growth in most years. In the event that a major flood destroys the in-channel habitat, these backup areas will be unlikely to provide suitable habitat, even if they have benefited momentarily from the short-lived additional water provided by the flood. In contrast, the ponding provisions of the Deutsch proposal offer a means of "flood insurance" for the vireo. In the event of a major flood, vegetation in the Deutsch ponding areas will be spared from the scouring that will remove vegetation within the levees, since the ponds will be closed off from the main channel during a flood. The vireo habitat sustained in the ponding areas by regular flows will remain available until new willows grow back into the scoured river channel.

4.4.3 Ponding Areas During Drought

Periods of drought will be stressful to ponding areas under both plans, but the more regular water flow provided by the Deutsch Proposal will encourage more resiliant growth which will be able to survive longer droughts. However, even non-riparian areas are useful to vireos, and they have been observed foraging in chaparral areas adjacent to riparian areas during dry years (SANDAG, Draft CSMP 1988). Thus the ponding areas will remain important as buffer zones and foraging sites even during periods of drought.

4.4.4 Ponding Areas as Study Areas

While the Deutsch Proposal calls for careful management of all habitat areas, the ponding areas lend themselves to the controlled study and experimentation necessary to perfect our knowledge of the vireo's requirements. The FWS recommends such experimentation with revegetation as a conservation measure in its Section 7 consultation (COE FSEA, 1988).

4.5 Economics

4.5.1 Reduced or Comparable Maintenance Costs

The Deutsch Proposal will require less channel maintenance, since the stepped side channels in the Plan have been eliminated.

While maintenance of the habitat areas is fairly intensive, it is not likely to be any more expensive than the Plan's program, which calls for clearing of 20% of the 400-foot channel every year in a 5-year cycle in addition to ongoing thinning operations (COE FSEA, 1988).

4.5.2 $10 Million Savings in Land Acquisition Costs

Total acreage to be devoted to habitat under the Plan is approximately 170 acres, including habitat within the levees and the 5 ponding areas (COE FSEA, 1988). By comparison, total acreage to be devoted to habitat under the Deutsch proposal is approximately 295 acres, including 300 feet within the channel along a stretch of approximately 8.5 miles and the 4 ponding areas. By utilizing land within the floodplain and minimizing purchase of more valuable adjacent private lands, it is estimated that acquisition of some 250 acres of private land can be avoided, thus reducing Plan costs by about $10 million (based on a value of $40,000 per acre).

The lands proposed as ponding/habitat areas in the Deutsch Proposal are located in the floodplain and are unsuitable for development, while a significant portion of those required by the Plan are valuable residential, industrial and commercial sites. Use of these less valuable properties for habitat offers a more cost-effective solution to flood control and habitat compensation than use of property with potential for commercial development. Acquisition cost, is the first consideration given in a list describing parcels which are appropriate for habitat creation (SANDAG, Draft SCMP, 1988):

> "Floodplain areas may be considered appropriate if acquisition cost is not prohibitive, minimum modification of topography and soils are necessary, and groundwater is available."

The Deutsch Proposal requires acquisition of approximately 250 fewer acres of private land than the Plan while providing for superior habitat in the acreage that is so dedicated. The related savings in land acquisition costs is estimated to be $10 million.

As was discussed earlier, purchase of the Middle Pond area and then simply paving it is not the highest and best use of property which has prime commercial potential.

5. CONCLUSIONS

In summary, there are numerous important reasons why the Deutsch Proposal should be given immediate and serious consideration:

Hydraulically:

- The COE/FWS Plan is deficient in its hydraulic design in that toe-down depths are inadequate in several areas;
- The Plan's stepped habitat areas are vulnerable to scouring and will be costly to maintain and restore;
- The 500-foot width will allow a degree of meander likely to endanger the levees;
- The Deutsch proposal's 400-foot width is adequate to provide flood protection and superior in channel stability and maintenance; and
- Changing from a 500-foot to a 400-foot channel is not a major design change.

Environmentally:

- The habitat areas provided by the Plan will not be managed in a manner likely to provide growth of quality vireo habitat;
- The Plan's side-channel habitat area in the vicinity of the Deutsch plant is too narrow to be suitable vireo habitat;
- The habitat areas within the levees are vulnerable when destruction of the stepped side channel occurs;
- The ponding areas receive insufficient and too irregular water flows to provide suitable habitat;
- The ponding areas, since their habitat will be of inferior quality, will not offer insurance against destruction of in-channel habitat; and
- The Deutsch Proposal ponds will receive regular water and be protected from flooding and thus provide excellent flood insurance for vireo habitat.

Economically:

- The Deutsch Proposal requires less channel grade maintenance and no more habitat maintenance than clearing the 400-foot channel and thinning the side channels;
- The Deutsch Proposal requires purchase of 250 fewer acres of private lands, resulting in a savings of approximately $10 million; and
- Paving the privately owned Middle Pond area is an inappropriatae use of federal funds.

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LETTER FROM ALEX DEUTSCH, ET AL.

To: Mayor Larry Bagley

Re: Proposed Flood Control Protection Plan for Lower San Luis Rey River

Since 1938, the United States Corps of Engineers has been working on a flood control plan for the San Luis Rey. Recently, at a public meeting, a representative of the Corps of Engineers was asked when they would start construction of a flood control system, His answer was, a minimum of five years, but pointed out that no plan had yet been approved and that the program could be delayed for years.

In the 1960's, the City of Oceanside instituted a program of development of the lower San Luis Rey River basin with the expansion of the Airport and the establishment of industrial and residential areas to be developed. Encouraged by the City of Oceanside, the industrial park started to develop. Buildings were constructed, manufacturing companies established, people were employed, and an industrial base was established as a forerunner of residential development for housing for people working in the area.

All of this development started by the City of Oceanside was based on the premise that the Corps of Engineers was going to establish an adequate flood control program in the San Luis Rey River.

Now we are told that there may be no flood control program by the Corps of Engineers at all, and at best, maybe in five years. Further, the Corps of Engineers estimates of cost of the proposed program (as developed by the Corps) have skyrocketed to the point that the sheer magnitude of the dollars involved may make it an economic impossibility:

Forty years for a program to be started is too too, too long.

We, as property owners, businessmen, professionals, etc., believe it is necessary for action now - not five or ten years down the road.

As property owners in the San Luis Rey River basin, we have prepared a plan of flood protection to be paid for completely (100%) by private funds of the property owners involved. Our plan will provide adequate and permanent flood protection NOW without cost to the already-overburdened taxpayer, and without the City of Oceanside having to relinquish its overall control over the development of the area.

Now, therefore.....

Each signer of this document agrees, at his own expense, to construct a rip rap dike on his property adjacent to the river.

The dikes will be constructed by first building a minimum 40-foot support dike to prevent the encroachment of flood water. Then, the face of the support dike will be rip rapped.

The support dike and its rip-rapped face will be constructed in accordance with generally accepted engineering principles (similar to the Corps of Engineers) for dikes of this type. The finished dike will be a minimum of seven feet above the river level and will resist a 100-year flood, provided the river is maintained at a 400-foot width and the growth in the river is kept clean to provide for free flow of the water.

Our current estimates are that the cost of the dike will be $50 per running foot for rip rapping and about $10 to $20 per running foot for the support dike.

We want to re-emphasize that the total cost (100%) will be borne by the property owners, who ask only that the City of Oceanside permit the owners to develop their land behind the permanent dike in any way they see fit, provided it is in accordance with the development plan of the City of Oceanside (industrial vs. residential).

This we promise to do, and we are willing to enter into a binding agreement to do so with the City of Oceanside with our obligation to

start dike construction when we have the assurances that we can use our land behind the dikes for its highest economic purpose.

We urge your immediate approval of our plan and your total cooperation in working with us to protest and prevent other government agencies from encroaching and restricting our rights to use our property (behind the permanent dike) for its best economic use in accordance with the master plan of the City of Oceanside.

OWNER NAME	PARCEL NUMBER	SIGNATURE	DATE
		John M. Lloyd	
L & L DEVELOPMENT CO.	158-010-10		24 OCT 80
DOUBLE 'L' LAND CO.	Unit 1, Lots 1-100; Unit 2, Lots 101-191; Mar Lado Maps 8642 & 8935		24 OCT 80
			11/10/80
			11/

ELSINORE VALLEY MUNICIPAL WATER DISTRICT LOAN—OPPOSITION

Senator REID. The subcommittee has also received a statement in opposition to the Lake Elsinore Water District loan which I will make part of the record.

[The statement follows:]

STATEMENT OF KENNETH HOWARD AND PENNY BAKER, LAKE ELSINORE, CA

Please accept our appology for asking your help at this late date, but the citizens of Lake Elsinore, California truly need your help. If the Appropriations Committee on Energy and Water Development (ACEWD) appropriates any more dollars to the Lake Management Project (LMP) it will be contributing to the largest Real Estate Scam in the State of California in decades. The LMP is not the same plan that you have already appropriated money for and not the same one that has been documented, presented and lauded - Ad Nauseaum.

When the Army Corps of Engineers denied a 404 Permit in 1987 for the construction of a levee across the middle of Lake Elsinore, the Elsinore Valley Municipal Water District (EVMWD) brought in the Santa Ana Watershed Project Authority (SAWPA). SAWPA is a Joint Powers Authority composed of 5 municipal water districts with its offices in Riverside, Ca. 40 miles from the project at Lake Elsinore. Sawpa hired a project manager, formed committees and created a new JPA to manage Lake Elsinore. The real goal of the JPA was and is to turn the floodplain behind the levee into a giant housing project.

By examining the SAWPA minutes since 1987, we have discouvered that; Elsinore City Council, The City Redevelopment Agency, Tom's Tincher's Pacific Heritage Dev., Russell W. Grosse Dev., were quick to seize this opportunity to mould what was to be a Reclamation, Flood Control, Recreation and Farm Irrigation project into a land developers gold mine. The Lake City Engineer, Milo Keith, told me that the dam or Levee will only be temporary until they can backfill behind the levee to raise the entire floodplain to a new level of 1265 feet above Mean Sea Level (MSL), which will allow the construction of houses, condomeniums, resort hotels, commercial buildings and private golf course. See enclosed report entitled "Reinvest in Lake Elsinore- Implementation Strategy".

We have stacks of documents indicating that EVMWD never intended to just build a levee, inlet channel, outlet channel, provide 6 wells, nor to confine floodplain land use to agricultural irrigation and recreation. We have uncovered a conspiracy of gigantic proportions dating back to at least 1983. While EVMWD was writing Loan Docs., environmental impact reports, securing funding they were also busy meeting with City, City Redevelopment Agency, The RDA and others to insure that sewers would eventually serve the 2,592 acres in the floodplain. (a 1988 agreement signed by the Mayor, James T. Winkler, formalized sewer and water services to the floodplain.) Mayor Winkler just happens to own several hundred acres in the floodplain to be serviced by those sewer and water services. Meanwhile, the RDA was making almost all lands within the city limits into redevelopment areas. Redevelopment Project Area III includes the floodplain East of the proposed levee and vacant land. During this period the City hired a consultant to find a developer, which eventually led to a Master Plan for The City of Lake Elsinore. The Consultant who was hired in 1983 was instrumental in 1988 in creating a report, part of which states;

> "The Redevelopment Program can benefit significantly from 'leveraging' certain of the Lake Management Plan's funding in ways which support the private sector's endeavors proposed for the perimeter of the Lake" (see enclosed report, page 9, paragraph 2, item # 1)

Much of the above mentioned activity was not done in a legitimate fashion. EVMWD denied water service customers a right to vote on the project even after the customers secured signed petitions from 19.6% of the registered voters. (15% required)

The Bureau of Reclamation loan Officer, Gary Bryant, has been handing out hugh sums of Federal Project Money without regard to the specific terms of the Contract signed in 1985. The Bureau reimbursed the EVMWD over 1½ million dollars before the contract was declared validated by court action. Again in 1985, the Bureau reimbursed the EVMWD over 1¼ million dollars drilling of three new wells even though the contract clearly states that 'WATER' is to be provided from LOCAL MONEY. see enclosed agreements.

From the very beginning, the statements about available funding originally written in the LOAN APPLICATION REPORT and given to your appropriation committee were false. EVMWD may have had approximately 2 million of its own money to contribute to the LOCAL Bank account. They never did have access to the 6 Million contribution from State Parks & Recreation(CDPR). see enclosed letters. The Riverside County Flood Control money was already "earmarked" for the 205 project sponsored jointly by the Army Corps of Engineers (ACE) and Riverside County Flood Control. The County's share was financed by a bond act passed in1987. EVMWD submitted, as LOCAL FINANCING MONEY FROM TWO BOND FUNDED PROJECTS. We seriously doubt that bond monies could be deposited into an account for the "discretionary" use of the EVMWD for its LMP.

Early EVMWD statements regarding AGRICULTURE IN OUR VALLEY were false. Although the Ag. Report, prepared by A.S. Dransfield was probably accurate, the drawing included in the early environmental report is not accurate. The drawing was labeled "Prime Ag Lands" yet the correct mapping is on file at the Soil Conservation Office in San Jacinto, Ca. clearly showing that EVMWD AG. statements were false claims. see enclosed map and drawing. EVMWD also claimed to have annexed lands in Temescal Water District territory in order to meet funding criteria. NOT TRUE. Approx. 900 acres was annexed at the request of the owner some four months after thisclaim was made by

EVMWD. EVMWD then compounded the False Claim by failing to let the Bureau of Reclamation know that the acerage had been a Riverside County Specific Plan Development since 1982. The 900 acres is commonly cald Horsethief Canyon Ranch. EVMWD also made false claims in early documents about their permission from Temescal Water Company (TWC) to use Temescal's water line to serve EVMWD AG, Customers in Wars Springs Valley which is the City Limits. In truth, the only pipe line TWC has in EVMWD territory is a 30 inch transmission for Temescals own use. Mr. Woods, General Manager of TWC,told us that he was never approached by EVMWD for Annexation by EVMWD or to sign a water service contract to have EVMWD service TWC's AG. Customers. EVMWD AG. Customer List displayed over 95 "so-called" customers, however, only six of the 95 met their own criteria, with the remainder being; city offices, schools, commercial users, cemetaries, parks and the State Park facility on the West end (wet side of the Levee) of the Lake.

According to a report by SAWPA, dated July 1988, there is serious doubt that EVMWD can repay the $650,000 per year over the 40 year life of the loan. see the enclosed "cover letter from MSI's Report entitled "Phase I Financial Plan for Lake Elsinore Lake Management, 1988". Circumstances surrounding the preparation of this report leaves little doubt about the City's role in this fiasco. Items from this report can be seen entered in the earlier referenced document; "Reinvest, Implementation Strategy". Since the contract was signed between the BoR and EVMWD, and it has become quite obvious that there is no AG. Customers as claimed in the contract, no one from any of the agencies involved with the Lake Management Project ever mentions repayment capabilities by EVMWD from Agriculture water sales. A project grantsman was flabergasted to learn that EVMWD borrowed project money based on Agriculture-- He wondered why they didn't go for "multiple" REcreation Monies. Lake Elsinore coulf have had FLOOD CONTROL by now under the 205 project which was due to go to construction in the spring of 1987.

We are saying to you that our Federal Government funded an unnecessary and unsound project designed simply to benefit large developers and entrenched Public Officials. Of the 11 supporting letters and resolutions for the LMP contained in the 1984 Loan Application Report ADDENDUM, 4 of the letters were from the partners of Crater Acres, the general partner of which is our Mayor James Winkler who was elected to the City Council in April 1986. The partnership owned 267 Acres in the floodplain at the time the letters were written. During and after 1986, Mayor Winkler has been actively purchasing property in the floodplain. Mr. Jeffrey A. Davey of the Limited Partnership said that Congressman Al McCandless had solicited the letters of support. Another letter of support came from Community Development Corp., the chairman of which, owns 5 acres that lies partly in the floodplain and under the new General Plan is due to be a Commercial Marina Specific Plan. The EVMWD board president, Nancy Shafer, City Councilman, Gary Washburn are partners in two real estate companies called Realty World and Estes Realty Investment Co. Washburn is also a member of Community Dev.,Inc.

We have been talking with the Army Corps of Engineers, Regulatory Branch (ACE) over the past two years. The ACE has told us that 1. The LMP no longer resembales what it started out to be: an inlet channel, outlet channel with farming and recreation behind a proposed levee., 2. The ACE has informed us that they are going to require permanent flood easements from property owners in the floodplain behind the levee (2,592 acres). The permanant easements state that there can be no construction of dwelling for human occupancy and no artificial changes in the topography of the existing floodplain behind the levee below 1265 feet MSL., 3. required 404 permit from the ACE will not be issued until all property owners have signed the permanent flood easement. Many of the property owners in the floodplain have already stated they will not sign any easement.

Pending posaible legal actions suggested by Center for Law in the Public Interest (Los Angeles), we now come to your committee asking that you with-hold any further Appropriations for the Project at Lake Elsinore. We do not want to see a repeat of what took place last fall when SAWPA spent over a million dollars of Federal Construction money to dig a portion of the inlet channel without a permit -- all the time claiming they were acting under a Memorandum of Understanding (MOU) from the ACE. We questioned Charles Holt, Chief ACE Regulatory Branch, who said that he did not give Sawpa an MOU. --see attached letter ACE (Holt Chief) to SAWPA Sept 1988. WE NOW ASK THAT YOUR SENATE AND HOUSE SUB-COMMITTEE ON ENERGY AND WATER DEVELOPMENT-COMMITTEE ON APPROPRIATIONS CONDUCT AN INVESTIGATION OF OUR CHARGES PRIOR TO THE FURTHER APPROPriations of money. PLEASE PLEASE PLEASE.

A final question of great inportantance is; considering all the documents referring to LAND USE, how could the Bureau of Reclamation have continued in this project under what they call a FINDING OF NO SIGNIFICANT IMPACT (FONSI)?

In speaking last week with Mr. Charles Estes of the Department Of The Interior, Mr. Estes remarked that "-- there should have been an Environmental Impact Statement (EIS) for a project of this magnatude".

Thank you for your help in this matter. The people of Lake Elsinore need your help badely.

LETTER FROM EDWARD M. HALLENBECK, REGIONAL DIRECTOR, LOWER COLORADO REGIONAL OFFICE, BUREAU OF RECLAMATION

(MAY 25 1986)

Mr. Jack Devers
General Manager
Elsinore Valley Municipal
Water District
P.O. Box 3000
Elsinore, California 92330

Dear Mr. Devers:

On September 23, 1985, the United States and the Elsinore Valley Municipal Water District (District) entered into a contract entitled "Contract Between the United States and the Elsinore Valley Municipal Water District Under the Small Reclamation Projects Act." The contract provides for the construction of a $39,619,000 project to stabilize Lake Elsinore, with the local share of financing amounting to $13,619,000 and the United States funding the remainder not to exceed $26,000,000. Article 24 of the repayment contract requires the District to validate the contract in a court of competent jurisdiction before the contract is legal and binding on the United States.

On August 12, 1986, the Superior Court of California, County of Riverside, validated the contract. However, under California law, there is a 60-day period after the date of the judgment during which any party having standing before the court can appeal the court's decision. On October 10, 1986, during the 60-day appeal period, an appeal was filed by such a party, Mr. Staples. The appeal challenges the finding of the court that the District is not required to have an election authorizing or ratifying the District's execution of the repayment contract.

The District's position is that the contract has been validated and that the United States should proceed with the advancement of funds to the District. The District believes that the judgment remains in full force and effect pending appeal. No stay order or writ of supersedeas has been obtained by the appellants pending the appeal.

After careful consideration, we are willing to proceed with the advancement of funds to the District for design of the project, subject to the following stipulation. If either of the conditions specified below occur, the District shall pay to the United States, within 90 days of receipt of a bill for collection from the United States, the sum of (1) all advances made by the Bureau of Reclamation (Reclamation) to the District; (2) all United States costs incurred in connection with the repayment contract; and (3) compound interest (monthly) on all Federal advances at an annual rate of 5.5 percent from the date of each advance to the date of payment. Reclamation will bill the District for such sum if (1) the court finds that the District must hold an election and the District fails to hold the election within 12 months from the date of the court's finding or (2) the court finds that the District must hold an election, the election is held, and the voters decide to not assent to the execution of contract No. 5-07-030-W0103, entered into by the District with Reclamation on September 23, 1985, or otherwise decide not to build a levee across Lake Elsinore. In the event the trial court judgment is upheld on appeal or in the event the electors of the District give their assent to contract No. 5-07-30-W0103 at an election held for that purpose in accordance with California law, the District's obligations hereunder shall cease and the repayment of any monies advanced shall be governed by the provisions of said contract No. 5-07-30-W0103.

If this stipulation is acceptable to the District, please have the authorized representative of the District sign both copies of this letter agreement, have the signatures attested, and return one of the copies to this office, Attention: LC-440, along with a resolution from the

District's Board of Directors approving this letter agreement and authorizing its execution.

We look forward to hearing from you.

Sincerely yours,

Edward M. Hallenbeck
Regional Director

Legal Review and Approval

11-17-81
Field Solicitor, Phoenix, Arizona

Elsinore Valley Municipal Water District

By: Charles E. Bryant 12-8-81

Title: President, Board of Directors

Attest: Joseph E Rendall 12-8-81
Secretary

LETTER FROM PETE DANGERMOND, JR., CALIFORNIA DEPARTMENT OF PARKS AND RECREATION

APR 29 1981

Honorable James Whitehead, Chairman
California State Park and Recreation Commission
2569 Via Pisa
Del Mar, CA 92014

Dear Commissioner Whitehead:

The attached plan, entitled "Lake Elsinore 1976 Bond Project Plan", is transmitted to you in accordance with the provisions of Chapters 372 and 1305. Statutes of 1980.

The Chapter 372 portion provided $6,000,000 for "Acquisition of land, leases, and other interests in land; acquisition and development of recreation facilities at Lake Elsinore State Recreation Area" and requires the approval of the California State Park and Recreation Commission before the funds can be expended.

The emphasis of this plan is acquisition of lands and development and rehabilitation of recreation facilities at the park.

Sincerely,

for Pete Dangermond, Jr.
Director

LETTER FROM WM. S. BRINER, DIRECTOR, CALIFORNIA DEPARTMENT OF PARKS AND RECREATION

July 3, 1984

ELSINORE VALLEY
MUNICIPAL WATER DISTRICT

Mr. D. James Laughlin, General Manager
Elsinore Valley Municipal Water District
33751 Mission Trail
P. O. Box 3000
Lake Elsinore, CA 92330

Dear Mr. Laughlin:

As a result of your presentation to the State Park and Recreation Commission and our preliminary review of your loan application report, the project has merit for Lake Elsinore State Recreation Area.

The prime benefits to be derived from the project will certainly enhance the recreational opportunities because it provides both an established lake level and an improvement to the water quality.

The Department should be a signatory to the grant if it is to include a commitment of State property. Based on goals and missions of this Department, there can be no commitment of land except for recreational purposes. Additionally, any funds for development of recreational facilities will have to be consistent with an approved General Plan.

We wish you success in your grant application and should that come into being, the Department stands ready to work out an agreement so that our joint goals can be achieved.

Sincerely,

Wm. S. Briner
Director

LETTER FROM WM. S BRINER, DIRECTOR, CALIFORNIA DEPARTMENT OF PARKS AND RECREATION

OCT 1 0 1986

Mr. Jack Devers
Elsinore Valley Municipal Water District
P.O. Box 3000
Lake Elsinore, CA 92330

Dear Mr. Devers:

We understand that the repayment contract between the United States and the Elsinore Valley Municipal Water District for the Lake Elsinore Management Project requires the Department of Parks and Recreation furnish the District with a letter indicating the Department's commitment of financial participation in the District's Lake Management Project.

The purpose of this letter is to inform the District that the Department has a valid appropriation of $6 million for acquisition of lands and development of recreational facilities within the park unit. The General Plan for this unit is recognized as a part of the Lake Management Project and these funds are to be used for that General Plan implementation as participation in the Lake Elsinore Management Project.

Sincerely,

Lee McCargo

Wm. S. Briner
Director

cc: Southern Region
Development Division

LETTER FROM GREGORY K. WILKINSON OF BEST, BEST & KRIEGER

October 20, 1987

Mr. Gary Bryant
Regional Project Loan Officer
United States Bureau of Reclamation
P.O. Box 427
Boulder City, California 89005

Re: Termination of Litigation in Elsinore Valley Municipal Water District v. All Persons, etc.

Dear Mr. Bryant:

I am pleased to inform you that the above referenced litigation is finally over.

Enclosed you will find a copy of a letter received this day from the Clerk of the California Supreme Court. As you will see, the Clerk reports that the Supreme Court declined to allow a late filing of the Petition for Review prepared by the attorney for the Lake Elsinore Citizens Committee for Voters Rights. This means that the matter will not be heard by the Court. Accordingly, the Elsinore Valley District's contract with the United States should now be deemed to be validated.

Yours very truly,

Gregory K. Wilkinson
of BEST, BEST & KRIEGER

LETTER FROM K.B. JONES, DISTRICT SUPERINTENDENT, CALIFORNIA DEPARTMENT OF PARKS AND RECREATION

October 27, 1987

Ms. Penny Baker
32840 Ortega Highway
Lake Elsinore, California 92330

Dear Ms. Baker:

You have requested in your letter of October 26, 1987, written documentation of the Department's position with regards to the commitment of financial participation in the Lake Management Project at Lake Elsinore.

I have attached a copy of correspondence on the subject signed by former Director, Wm. S. Briner of October 10, 1986. To the best of my knowledge, the Department's position has not changed and there have been no financial agreements written to any agency. The General Plan referenced in the attached letter is the State Park Plan for Lake Elsinore SRA approved in June of 1984.

Sincerely,

K.B. Jones
District Superintendent

Attachment

LETTER FROM HANK OTWAY, PROJECT MANAGER, SANTA ANA WATERSHED PROJECT AUTHORITY

July 12, 1988

Mr. Arthur R. Bullock
General Manager
Elsinore Valley MWD
P.O. Box 3000
Lake Elsinore, California 92330

Subject: Reimbursement for Wells, Lake Elsinore Management Project

Dear Mr. Bullock:

Pursuant to the meeting of July 7, 1988, with representatives of Elsinore Valley MWD, SAWPA and the Bureau of Reclamation, Reclamation has no objections to the District requesting an advance of Federal funds for the purpose of reimbursing the District for construction costs of the wells. In support of your request, Reclamation requires copies of invoices by your construction contractor for such work and proof of payment thereof. Reclamation also requires the District to verify that construction is complete and provide data establishing the suitability of the wells for the intended purpose. A notice of completion filed in the County Recorder's Office would possibly be sufficient to verify construction. A suggested draft response regarding suitability of the wells for the intended purpose is enclosed.

Importantly, Reclamation is interested in seeing the repayment capacity associated with the water produced from the wells used for project repayment.

If you have any questions regarding this subject, please call me or Mr. Hank Otway, Project Manager.

Very truly yours,
J. Andrew Schlange
Manager

by Hank Otway
Hank Otway
Project Manager

LETTER FROM DOUGLAS W. AYRES, PRESIDENT, MANAGEMENT SERVICES INSTITUTE

July 12, 1988

Mr. J. Andrew Schlange, Manager
Santa Ana Watershed Project Authority
via Mr. William C. Dyer, Project Manager
3600 Tyler Street, Suite 207
Riverside, California 92503

Dear Mr. Schlange, Mr. Dyer, and Other Involved Parties:

Attached hereto are the contractually stipulated 25 copies of the FINAL Report of an outline of a potential Financial Planning approach towards the determination of

the methodologies available with which to pay for the maintenance, operation, and payment of debt of the Lake Elsinore Lake Management Project.

Pursuant to the contract, your personal verbal amplification of that contract, and the July 1 letter of SAWPA Attorney Joseph S. Aklufi, all copies of this FINAL Report have been sent you, and all background materials have been "promptly delivered to and become the property of SAWPA for its use and purposes". We would have preferred to have kept the background materials for our files, since the Report was written from them, but per your request all have been returned.

This Report is considerably less detailed and answers far fewer pending questions than originally had been proposed by MSI, as requested by each of the "Lake Elsinore Management Task Force Technical Committee" and the "Lake Elsinore Management Task Force Executive Committee". The decision to both delay and to reduce markedly the scope of the originally accepted MSI Proposal, and to substitute this "hurry up" and much cut down version makes this Report far less comprehensive and of much lesser quality than those which MSI is accustomed to providing and is comfortable with. However, it is our belief that the following Report does as originally conceived -- it provides an outline upon which to build additional detailed and definitive financial data, in turn upon which to make cost and revenue projections on a year-by-year basis, and to provide a considerable added measure of financial certitude to the Elsinore Valley Municipal Water District as to its future financial obligations.

This Report, in effect, provides an outline for future detailed market, cost, and revenue research and quantification to determine how operating costs and debt payment might be made for the revived Lake Elsinore, arising from the Lake Management Project.

MSI would be remiss if it did not comment that it is mystifying to MSI, at least, as to how such a major project, involving $40 million of public monies, several millions of dollars and three years of engineering and environmental reports, and requiring such major future operational and financial commitments can have so much time, effort and money spent on engineering and environmental reports while the financial obligations involved in the perpetual operation of the Lake and the 40 year repayment of the incurred debt have neither been identified nor quantified by an official Lake Management Project study.

Only about six weeks of time and $8,500 has been allocated a short time before the actual start of construction to determine in outline form only what expenses are to be incurred, how they might be met, and who will defray those costs.

Those questions are NOT answered by this Report, but should be posed by someone to someone. At a brief meeting in the SAWPA office on June 30, MSI was provided documents tracing the history and formation of the Project Task Force, SAWPA Project Committee No. 12, and allied actions. Added questions about authority, time lag, and monetary matters not addressed in the Preliminary Report are raised by those documents, which are commented on peripherally later in this FINAL Report.

This Report also DOES NOT answer in detail the biggest question of all: How will the Elsinore Valley Municipal Water District meet its contracted financial obligations relative to the Lake Management Project?

Scenarios are suggested for further pursuit to respond to the latter question to a satisfactory and sound conclusion. However, to allay any fears of anyone inclined to be a critic of the Lake Management Project, it is the considered opinion of MSI that a feasible plan can be developed in a relatively short time to not only assure the EVMWD of its future fiscal solvency, but the entire Elsinore Valley of the economic boon which the Lake Management Project will provide to the entire area. And to meet both operational and debt repayment obligations quite easily without any general tax, assessment, or non-benefit related levy.

But, the current convoluted organizational structure will have to be much clarified prior to the effectuation of any such definitive Financial Plan. It is our considered

opinion that the only difficulty in the road of a fiscally sound Lake Management Project is the organizational process constructed to provide such answers.

We can only hope that our raising of long ignored questions which have gone begging for answers will be taken constructively, not unduly resented, and resolved expeditiously and satisfactorily for the benefit of the Elsinore Valley.

We see no difficulty in the Lake Management Project meeting all its financial obligations without any significant adverse impact on any participating organization or segment of society.

Respectfully submitted,

Douglas W. Ayres

DOUGLAS W. AYRES
President

LETTER FROM CHARLES M. HOLT, P.E.

July 28, 1988

Office of the Chief
Regulatory Branch

Santa Ana Watershed Project Authority
ATTENTION: William Dyer
3600 Tyler Street, Suite 207
Riverside, California 92503

Gentlemen:

This letter is to respond to your letter of July 21, 1988 in which you inquired as to whether or not a permit would be required to begin work on Phase I of the inlet channel portion of the Lake Elsinore Lake Management Plan. This phase of your project, restricted to excavation with immediate removal of excavated material to a site above the ordinary high water mark (previously determined to be at the 1260' MSL elevation), is not subject to our jurisdiction. However, be advised that your permit application for the remaining phases is still being reviewed and may yet be denied. Phase I impacts will be taken into consideration when completing the public interest determination used to make a decision on permit issuance or denial. Completion of Phase I prior to completion of the permit application process will not influence the permitting decision in your favor.

If you have any questions, please contact Larry Smith, Regulatory Branch, at (213) 894-5606 before 3:00 p.m.

Sincerely,

ORIGINAL SIGNED BY

Charles M. Holt, P.E.
Chief, Regulatory Branch

REINVESTMENT IN LAKE ELSINORE
IMPLEMENTATION STRATEGY

LAKEFRONT REDEVELOPMENT PLANNING AREA

I. INTRODUCTION AND OVERVIEW

The Elsinore Valley Municipal Water District, (EVMWD) must be commended for the leadership role it has taken in helping solve one of the community's most perplexing problems which it has experienced throughout its history. Through EVMWD's efforts, the funding commitment is now in place for the stabilization of the lake. Because of their interest in the community and desire to see the lake managed as an important public resource, EVMWD took on the responsibility and risk of receiving, administering and repaying the federal grant and loan program which has been committed to the project. Now is the time for the City, the Redevelopment Agency and other public agencies involved to demonstrate the same level of commitment to this important endeavor by joining with EVMWD and the designated implementing agency, the Santa Ana Watershed Project Authority (SAWPA) in establishing an appropriate means for distributing the risks, sharing in the costs and administering the project, both now, and in the years to come.

While the stabilization of the lake will have many positive benefits to the community, none may be as important in the long-run as the economic development potential which the lake management program can bring. However, even with the successful implementation of the existing Lake Management Plan, little economic activity is likely to result around the lake perimeter as most of the land must still remain floodable, and the fragmented ownership pattern will preclude site consolidations which, at least partially, could help establish meaningful development opportunities.

* THE CITIZENS WANT IT TO STAY FLOODABLE

* THE LAKE ELSINORE IS GROWING SO FAST NOW THAT CITIZENS WHO PURCHASED HERE DURING THE PAST 3 YEARS ARE COMPLAING THAT THEY ARE HAVING GREAT DIFFICULTY IN GETTING OUT ON THE STREETS AT 4 A.M. TO GO TO WORK. POPULATION HAS INCREASED 400% IN THREE YEARS.

Therefore, it is proposed that the City and Redevelopment Agency formally join with EVMWD and the other participating public agencies through execution of appropriate cooperative agreements which will set a course for moving the overall project aggressively forward while expanding its focus to include economic and community development goals. The Lakefront Redevelopment Planning Area which is delineated on the following map identifies the target area for establishing a cooperative venture with the various involved public agencies. It is the purpose of this report to set forth specific steps which need to be taken to carry out the overall endeavor as well as discuss public and private sector actions which are needed to implement the specific cooperative projects.

To a great extent, the City of Lake Elsinore's future economic stability, social makeup and physical character, are directly tied to the stabilization of the Lake and how the Lake Management Project is implemented. It * will be the City of Lake Elsinore that will be most directly impacted by the construction of the Lake Management improvements and the influx of people who will come to the community to enjoy the quality recreational facilities. It will be the City of Lake Elsinore which must put up with the additional traffic that the project will generate, pay the cost of the wear and tear on the local streets, and accommodate the need for additional law enforcement, emergency services and various public facilities.

It is important for the City to identify and understand the significance of these impacts on the community and to establish ways to insure that any economic hardship brought about by Lake Management is offset by revenues generated by Lake Management or the auxiliary spin-offs. It is proposed that the implementation of the projects discussed herein will go a long way toward addressing this need.

* WE DO NOT NEED THE LMP TO STABALIZE THE LAKE. THE BOND ISSUE HAS ALREADY BEEN PASSED FOR AN OUTFLOW CHANNELL. WE CAN GET TITLE 22 WATER NOW FROM HEMET,CA WE do NOT NEED NOR WANT HOUSES & HOTELS & INDUSTRY IN THE FLOOD PLAIN.

II. OVERALL COOPERATIVE PLAN

While the original Lake Management Plan promotional materials discussed economic growth and provided illustrations of enhanced recreational amenities within the Floodplain and Downtown Areas, none of the items listed below, which are in the approved project budget, reflect such improvements. However, given the financial constraints which the current project faces and the potential additional costs which may not have been adequately addressed, such as, acquisition costs of rights-of-way and flood easements, it is hoped that the proposed cooperative approach will not only insure that the approved items can be adequately financed, but in addition will allow some of the promotional items to be included in the project as well. → ACTUALLY MEANS LITTLE OR NONE

Original Project Scope

As originally proposed and approved by the funding agencies, the Lake Management Project will consist of the items discussed below which are delineated on the map which follows.

1. Construction of a levee on the southeastern perimeter of the lake from Lakepoint Park to Rome Hill. THE ORIGINAL LEVEE WAS to REACH FROM LAKEPOINT PARK TO RUSSELL ST., THEN WAS CHANGED LATER TO LUCERNE ST., AND NOW TO ROME HILL THE CITY ENGINEER SAYS THERE IS TO BE NO LEVEE BUT THE CITY IS STILL TO PAY 1/2 OF THE COST.
2. Construction of an inlet channel running parallel to Lakeshore Drive between Railroad Canyon Road and near Lakepoint Park. THIS IS ALSO DRASTICALLY CHANGED FROM ORIGINAL PLAN. IT IS NOW DESIGNED TO BE A 1200 FT. WIDE X 5,000 FT. + LONG MARINA WITH 100 PERMANANT BOAT SLIPS.
3. Widening, deepening and minor relocation of the existing outlet channel from the lake to Riverside Drive. THE OUTLET CHANNEL (Flood) HAS NOW BEEN CHANGED TO A RIVER WALKWAY. THE FLOOD OUTFLOW CHANNEL BOND MONEY WILL NOW BE USED TO FINANCE A DOWNTOWN SHOPPING MALL. SEVERAL MEMBERS OF CITY COUNCIL, CITY REDEVELOPMENT, MEMBERS OF THE EVMWD, L.M.P., LEMA, FORMER WATER BOARD MEMBERS, PLANNING COMMISSION MEMBERS HAVE ACQUIRED LAND HOLDINGS ALONG THE OUTFLOW CHANNEL & IN THE FLOOD PLAIN.
4. Expansion of the existing culvert at Nichols Road and cleaning of debris from the existing Temescal Wash Channel from Riverside Drive to a point approximately 1,000 feet downstream of Riverside Drive. THIS IS ALREADY COVERED BY THE BOND ISSUE PASSED IN 1986 UNDER THE DIRECTION OF THE RIVERSIDE COUNTY FLOOD CONTROL. ANY DIFFERENT EXPLANATION IS A LIE.
5. Construction of an outlet pump station and a drainage pump station.

6. Construction of bridges across the outlet channel and inlet channel.

7. Construction of three new wells and rehabilitation of the three existing State wells. ONLY ONE OF THE EXISTING WELL WERE CONSIDERED Good WELLS IN 1966 & 1967. THEY COULDN'T KEEP UP WITH EVAPERATION WHEN THE WATER WAS OVER 100 YARDS WEST OF THE EXISTING WELL (ON WET SIDE

8. Construction of islands around the three existing State wells, a connection between the levee and the islands, and beaches along the levee.

9. Expansion and improvement of the two existing State park units to include beaches, boat-launching facilities, and expanded campgrounds in accordance with State Park Recreational Plan.

10. (Possible) use of borrow sites located within the floodplain. WHAT DOES Possible MEAN? NOTHING?

11. Development of a wetlands preservation program. TO BE SURROUNDED BY HOUSING & PUBLIC WALK WAYS, ALSO UNDER PROPOSED AIRPORT RUNWAY. WILDLIFE WILL CEASE TO REPRODUCE WILL NO LONGER SERVE AS A STOPOVER FOR MIGRATORY BIRDS.

According to the Final Environmental Impact Report, Pages 3-12, the following are the estimated costs and revenue sources for the Lake Management Project:

Project Costs	
Construction Cost	$27,993,000
Contingencies @ 10%	2,799,000
Cost Increase @ 10%	3,079,000
Engineering and Administration	3,900,000
Interest During Construction	601,000
Rights-of-Way	3,500,000
Bureau Participation	250,000
Loan Application Report	135,000
CEQA-EIR	25,000
Total Project Cost	$42,282,000

Project Revenue Sources	
Bureau of Reclamation	
- Grant	$ 9,405,000
- Recreation Grant (to be repaid)	9,405,000
- Non-interest bearing Loan	4,894,000
- Interest bearing Loan	2,295,000
Total Bureau Contribution	$26,000,000
* State Parks & Recreation	6,000,000 * STATE NO LONGER HAS 6,000,000 (~~6,200,00~~)
** U.S. Army Corps of Engineers	4,620,000
Calif. Deptartment of Water Resources	2,000,000
*** Riverside County Flood Control District	2,620,000
Elsinore Valley Municipal Water District	1,042,000
Total State & Local Contribution	$16,282,000
TOTAL PROJECT REVENUES	$42,282,000

* WE COULD HAVE HAD STATE PARK $ WITHOUT LAKE MGT.
** $*** WERE BOND FUNDED FOR FLOOD CONTROL OUTFLOW CHANNEL IN 1986 AND SHOULD NOT BE IN THIS REPORT.

As lead agency and contractual party, EVMWD is obligated to pay or to repay to the Federal Bureau of Reclamation the following:

Intial Cash Contribution	$ 1,042,000
Bureau of Reclamation Grant (to be repaid)	9,405,000
Non-Interest Bearing Bureau Loan	4,894,000
Interest Bearing Bureau Loan	2,295,000
Total EVMWD Obligation	$17,636,000

The loan portion which must be repaid amounts to $16,594,000 amortized over forty (40) years at an annual payment of $650,000. It is anticipated that the amount will rise with the passage of time, as construction costs increase. Section 12(c) of the Contract between EVMWD and the Bureau of Reclamation provides that the first payment on the loan will not be due and payable until May 1 of the year following that in which the Bureau gives the EVMWD the notice of completion for the project. Thus, at a minimum, the Lake Management Project must generate enough annual revenues to repay the Bureau and to meet operational needs.

* THE LMP CANNOT DO THIS IF THE PROJECT STICKS WITH ITS ORIGINAL GOALS OF AG-LAND IRRIGATION & RECREATION IN THE FLOODPLAIN.

Proposed Cooperative Approach

During this past year, City staff and representatives of Lake Elsinore Associates, who have been doing all of the planning for the cooperative project, have made presentations to the Lake Management Executive and Technical Committees. As a result of those presentations and numerous meetings with staff members from nearly all of the governmental agencies involved, we were able to gain basic support for the conceptual plan and

* RUSTY GROSE, TOM TINCHER, AND ALEXANDER HAGEN (DEVELOPERS) OF THE UP & COMMING FLOODPLAIN HOUSING & COMMERCIAL DEVELOPMENT. SEVERAL OF OUR ELECTED OFFICIALS STAND TO MAKE MILLIONS OF DOLLARS IN PROFITS AT THE EXPENSE OF PRIVATE CITIZENS

the cooperative approach which we have been proposing. That support was reflected by the Executive Committee's approval of the "mitigated" plan which was included in the final E.I.R. for the Lake Management Project. That alternative plan, which follows, provides for the reconfiguration of the levee which could ultimately accommodate the development plan proposed at that time, by Lake Elsinore Associates and the City. It also reflects the proposed inlet waterway rather than channel.

Both the City and the developers involved in the related projects were encouraged by this show of support by the various agencies involved, and since that time have been working diligently towards establishing rational plans and financing strategies which would allow the proposed developments to proceed. As a result of these efforts, certain conclusions have been reached which are as follows:

1. The Redevelopment Program can benefit significantly from "leveraging" certain of the Lake Management Project's funding in ways which support the private sector endeavors proposed for the perimeter of the lake.
2. The Lake Management Project can benefit substantially from the "leveraging" of Redevelopment Agency funding and private sector investments proposed for the periphery of lake.
3. Enhanced recreational opportunities will result from a cooperative Lake Management and Redevelopment Agency endeavor.
4. City economic and community development goals can be realized in ways which will support the Lake Management Program.
5. Lake Management goals and objectives can be realized in ways which will not be detrimental to the City, but rather be a very positive "shot in the arm" for the community.

By focusing on the common interests which the Redevelopment Agency and the Lake Management Project have concerning the specific projects, ways can be identified to provide mutual support through cooperative endeavors. For instance, the Lake Management Project has little money allocated for the acquisition of flood easements within the existing flood plain. If current appraisals are reflective of true values and in fact such ease-

ments must be acquired, the Lake Management property acquisition budget would have to be increased several times over what is now provided. However, through the cooperative approach discussed in the next section, all flood plain property acquisition costs could possibly be assumed by the Redevelopment Agency and the participating developers if the Lake Management Project would fund the public recreation improvements called for by the Plan. This would be a legitimate expenditure of said funds which would not only provide the previously promised recreation improvements, but could result in millions of dollars in property acquisition savings to the Lake Management Project.

The varipus projects which are proposed as part of the cooperative Lakefront Redevelopment effort are delineated on the following map and discussed in detail in the next section.

III. LAKEFRONT REDEVELOPMENT COOPERATIVE PROJECTS

To take advantage of the public benefits which can be derived from implementing the following cooperative projects, the City must immediately seek the cooperation and support of the agencies involved in the Lake Management Project and implement agreements which provide the following assurances:

1. The Lake Management Project will allocate funds and undertake the cooperative projects called for on the following pages.
2. The Lake Management Project and City will aggressively seek and obtain the necessary Corps of Engineers' Section 404 approval at the earliest possible date for the overall project or, if more appropriate, for individual designated projects.
3. The City/Agency will allocate its fair share of project generated revenues to help repay the Lake Management debt, or reimburse the Water District for expenses incurred to date and help finance operational costs.

4. The City/Agency, SAWPA and/or other participating agencies must commit to using their respective condemnation powers, when appropriate, to assure the ability to carry out the necessary property consolidation which is extremely critical to the effort. Since an overall basin storage capacity which is basically equal to that which exists today must be maintained in perpetuity, all floodable properties must be brought into the plan now or potentially remain floodable forever. In order to optimize the development potential and implement the comprehensive plans proposed, the need for, hopefully, limited use of such powers is imperative.

We believe that by accomplishing the above and executing the development agreements to implement each of the projects discussed below, the City will be taking a major step forward in realizing its potential to become one of the most desireable places to live, shop, work and play in all of Southern California.

Proposed Cooperative Projects

The projects which are proposed to be undertaken as cooperative endeavors are as follows:

1. Lakeshore Village and Inlet Waterway Project
2. Marina Village and Central Park Project
3. West End Recreation Center Project
4. Regional Park and Wetlands Project.
5. Well Island Resort Project
6. Downtown Riverwalk and Outlet Channel Project

Each of these projects is discussed in detail in the following sections and proposed actions which are needed and issues which need to be addressed to implement each are described. It is hoped that the City Council/Redevelopment Agency will consider the merits of each proposed project and direct staff to immediately commence the drafting of the appropriate development agreements with the involved development entities for formal Agency consideration.

LAKESHORE VILLAGE & INLET WATERWAY PROJECT

This project is extremely important to the overall Reinvestment in Lake Elsinore Program as it will provide the following:

1. Establishes the means to finance the acquisition of the property needed for the inlet waterway.
2. Reinforces the Downtown Reinvestment Project by bringing in new residential development into the area.
3. Supports the effort to secure the regional mall by bringing the lake to the proposed site.
4. Establishes an "early action" project which may be able to obtain a Corps of Engineers' "Section 404" permit before the overall plan is approved for the Flood Plain Area.
5. Establishes a tax increment flow to the Agency which can help fund the Civic Center Project and the Costa Lago Gateway Commercial Project.

PROJECT CONCEPT

It is proposed that the Agency enter into a disposition and development agreement with Lake Elsinore Associates and/or their participating developers which would commit all parties to a project involving the following:

1. Acquisition of the expanded area needed for the inlet waterway and payment to the Lake Management Project an amount needed to finance the necessary waterway engineering and improvements over-and-above what has been allocated for the smaller channel project.
2. Consolidation of the approximately 160 acres of property located between the waterway and Lakeshore Drive.
3. Utilizing dirt from the inlet waterway to reclaim the 160 acres for a mixed use (commercial/residential) project.

PROJECT BENEFITS

1. Lake Management Project costs will be reduced by eliminating those associated with property acquisition.

2. 160 Acres of mostly floodable property will be reclaimed and redeveloped into a quality mixed use project which will reinforce the Civic Center and Downtown Reinvestment Projects.
3. Existing property owners will be offered an opportunity to participate in the project by paying their fair share of the costs involved and agreeing to cooperate in the implementation of a master plan of development for the overall area.
4. Existing residents will be offered the opportunity to come back into the project through a very attractive relocation program.

MARINA VILLAGE & CENTRAL PARK PROJECT

The Marina Village & Central Park Project is an integral part of the evolving Downtown Reinvestment Plan. These facilities along with the new Civic Center and the adjacent commercial and residential developments will serve as an anchor for the south end of the Downtown Area. By developing the facilities as proposed, several objectives can be realized, such as;

1. More people are attracted to the area who in turn will patronize the Downtown businesses.
2. The Downtown maintains its prominent role within the community and continues to serve as a focal point for business and community affairs.
3. The physical upgrading which is proposed will help establish a new image for the area and community overall.
4. The realignment of Lakeshore Drive and the proposed project allows for the development of a major integrated central park for the community.

PROJECT CONCEPT

1. Lake Management Project acquires approximately 33 acres of mostly floodable land from private property owners and the State of California.
2. Lake Management Project uses dirt from the excavation for the marina and inlet waterway to construct the marina, park and reclaim nearly 13 acres

of the developable property adjacent to the City's proposed civic center.

3. Redevelopment Agency/Developers acquire reclaimed site from Lake Management Project through a lease/purchase option agreement or other means.
4. Lake Management Program allocates 100 boat slips and permanent lake use permits to the marina.
5. Redevelopment Agency/Developer leases marina from Lake Management Program.
6. City and State Parks work out a program which would give the city control over the State Park facilities within this project area and the City/Redevelopment Agency would improve the facilities to function as a Central Park.

PROJECT BENEFITS

1. It is estimated that the proposed cooperative project could generate more than $300,000 annually which could be used to help retire the Lake Management debt or to cover operating costs.
2. The City ends up with an extremely attractive central park which will effectively serve the needs of the community and complement other redevelopment plans for the area, including the proposed Civic Center.

WEST END RECREATION CENTER PROJECT

The West End Recreation Center Project is proposed as a cooperative endeavor between the Redevelopment Agency, Bryant Morris Development, participating property owners and the Lake Management Project. The development will establish a waterfront park complex which will be a major recreation attraction. Its extensive beaches, picnic areas, marina, water park and play areas will attract visitors from throughout the State and beyond. In addition, the "Mission Bay" appearance of portions of the new park will provide a very desirable setting for a quality residential development along with new commercial projects fronting onto Riverside Drive.

The West End Recreation Center Project is viewed as being extremely important in the City's effort to establish Lake Elsinore as a major recreational center.

It offers significant long-term benefits to the community and should be aggressively pursued as part of the cooperative Lake Management Project.

PROJECT CONCEPT

1. Redevelopment Agency/Developer acquires the property from Joy Street to Lakeshore Drive.
2. Redevelopment Agency/Developer does all the grading needed to reclaim portions of the residential site and form the basic structure of the marina, waterfront commercial site and the public park.
3. Lake Management Project acquires rough graded marina, waterfront commercial site and park property from Agency/Developer at land cost only.
4. Lake Management Project allocates 100 boat slips and permanent lake use permits to marina.
5. Lake Management Project leases marina and waterfront commercial site to Agency/Developer.
6. Lake Management Project finances and constructs park improvements within project area.
7. Redevelopment Agency and Lake Management Project work with Wesselink in an effort to establish a cooperative project on the balance of the overall site.

PROJECT BENEFITS

1. The expanded public park facilities will generate considerable more interest in the area as well as provide improved public control over the lake frontage.
2. The cooperative project will provide publicly owned facilities to the Lake Management Project at substantially reduced costs.
3. The Agency/Developer lease of the waterfront commercial site and marina from the Lake Management Project could generate from $200,000 to $300,000 per year which could be used to repay the debt or applied towards addressing on-going operating costs.

4. The viability of the proposed adjacent commercial projects would be enhanced by the recreation as well as residential developments, thus potentially resulting in a significant expansion of the City's tax base.

REGIONAL PARK & WETLANDS PROJECT

The Regional Park & Wetlands Project is critical to the overall Reinvestment Project, as well as, the Lake Management Project in that the properties involved provide a substantial portion of the storage capacity which is necessary, the wetlands area which is required and the public recreation facilities which have been promised.

PROJECT CONCEPT

1. Redevelopment Agency/Developers acquire the floodable land.
2. Redevelopment Agency/Developers grade the property to help reclaim the adjacent development sites and to form the basic configuration of the areas proposed for public use.
3. Redevelopment Agency/Developers convey public use areas to Lake Management Project at no cost.
4. Lake Management Project constructs, operates and maintains wetlands.
5. Lake Management Project constructs improvements to public golf course, regional park, equestrian center site, etc.
6. Lake Management Project leases regional park concession facilities, public golf course and equestrian center site to experienced operators.

PROJECT BENEFITS

1. Lake Management Project meets its storage requirements without the need to use its funds to acquire flood plain properties and for rough grading which represents, potentially, a very substantial savings to the project.
2. Lake Management Project meets the wetlands requirement without the need to expend its funds for land or rough grading.

3. The lease revenue from the golf course, equestrian site and park concessions could possibly be several $100,000's per year.
4. Redevelopment Agency/Developers establish the source of the dirt needed to construct the developable sites at the cost of buying the adjacent land and the grading required.
5. The developable sites are enhanced by the public park improvements and the public operation of the involved areas.

WELL ISLAND RESORT PROJECT

The original Lake Management Plan called for the construction of small islands around the lake water replenishment wells which would then be connected by a pier structure to provide access for on-going maintenance, etc. However, during the discussions on the initial draft of the Reinvestment Plan for the Flood Plain Area, it was suggested by Engineering Sciences that a large island be constructed which would encompass all of the well sites, thus eliminating the need for the pier and providing a revenue producing possibility. The idea seems to have considerable merit, if the actual cost of developing the site is cost effective.

PROJECT CONCEPT (ALTERNATIVE 1)

1. Lake Management Project would construct well island as both a means to service the wells and provide a revenue source for the project.
2. Redevelopment Agency/Developer would ground lease the site for use as a recreational resort.

PROJECT BENEFITS

1. Lake Management solves its access needs as well as generates revenues for the project.
2. Redevelopment Agency/Developer has development opportunity within the area without the requirement of the capital expenditure to build the island.

PROJECT CONCEPT (ALTERNATIVE 2)

1. Redevelopment Agency/Developer builds the well island and allows Lake Management Project access to its wells.
2. Redevelopment Agency/Developer construct recreational resort on island.

PROJECT BENEFITS

1. Lake Management has access to its wells at no, or very little cost.
2. Redevelopment Agency/Developer own well island rather than ground lease.

DOWNTOWN RIVERWALK & OUTLET CHANNEL PROJECT

Throughout the Lake Management planning process, the community was presented concept plans, brochures and video tapes which highlighted the extremely attractive water amenity which potentially could run through the heart of the City. Unfortunately, there has been no detailed planning done to date to explore the feasibility of bringing about such a desirable feature. While recently Lake Elsinore Associates, in cooperation with the Redevelopment Agency, has prepared some exciting conceptual plans for the area, a considerable amount of additional work and cooperative study must occur before any meaningful decisions can be made and a development program established.

Bryant Morris Development, a participating developer with Lake Elsinore Associates, has indicated their willingness to undertake the more detailed study which is now required. This is a real opportunity for the community in that Bryant Morris Development is probably the premier developer of waterfront and water related commercial and recreational facilities in the State, if not the nation.

PROJECT CONCEPT

1. Initiate a cooperative study involving the Lake Management Technical Committee, County Flood Control, the City Redevelopment Agency, the Downtown Business Association and Bryant Morris Development to explore the practicality of bringing permanent water into the outlet channel.

2. Develop an overall concept plan for the "Riverwalk" corridor and identify specific development opportunities which can help finance and support the water amenity.

PROJECT BENEFITS

1. The project will help improve the overall image of the Downtown Area and stimulate additional economic development activities.
2. Such a cooperative project has the potential to save the public land acquisition, construction and on-going operations and maintenance costs.
3. The project will provide a pedestrian link between the Downtown Area and the proposed Civic Center and Marina Village Projects.

IV ORGANIZATION, RESPONSIBILITIES AND ADMINISTRATION

There are two basic questions which must be addressed in evaluating alternative organizational structures to implement and administer the Lake Management Program.

1. What is the most efficient and effective organizational arrangement needed to gain approval of the cooperative plans and carry out the proposed construction activities?
2. What is the most efficient and effective organizational arrangement which is required to manage the lake once the construction project is completed?

The first question needs to be answered immediately so that the entire process can continue to move forward and the federal funding commitments retained. However, it may be some time before we will be in a position to adequately address the second question because of the wide range of issues and circumstances which must be clearly understood and assessed. MSI has identified the need for several detailed and comprehensive studies in order to provide the necessary information upon which to base a rational and responsible decision.

Therefore, it is recommended that we not try to address both questions and the related issues at this time. But, rather it is proposed that we establish an interim organizational structure which will address the first question while at

the same time provide the forum through which the long-term management issues can be identified, evaluated, debated and finally considered in making an informed recommendation. By the time the necessary information on long-term management needs will be available, we should have a clear reading on the status of the proposed cooperative Reinvestment endeavors. The implementation of our alternative efforts will clearly have such a significant impact on the overall project that it alone will warrant a new look at the institutional and management implications.

However, it is recognized that by by-passing the long-range operational questions at this time, it eliminates the ability of the participating agencies to go as far as forming a permanent joint powers authority which would assume all of the financial as well as management obligations which such a project bring. At the same time, it is recognized that by supporting the projects which we are proposing the entire Lake Management annual debt service could easily be covered. In light of this possibility and the other revenue sources which were identified in the MSI report, there should be no concern over the ability of a cooperative effort to cover the projected annual debt service requirement of the project.

Therefore, it is proposed that the City and Redevelopment Agency enter into cooperative agreements with SAWPA, the Water District and the other appropriate agencies involved to implement the cooperative Lake Management Plan. In return for their commitment to the overall program and the water related projects reflected herein, the City and Redevelopment Agency will agree to establish a funding mechanism through development fees, tax increment funds, ground lease payments, etc., which at a minimum will cover the annual maximum debt retirement payment of $650,000.

Under the terms of the proposed cooperative agreements, the following responsibilities will be set forth for each participating agency:

City of Lake Elsinore

1. Prepare a master plan of development which includes the previously discussed cooperative projects.
2. Secure private developer commitments for the designated projects through execution of appropriate development agreements.
3. Process the necessary environmental documents, zone changes and amend the City General Plan to accommodate the proposed developments.
4. Work with State Parks to assess the feasibility of the City taking over management of lake recreation and park facilities.
5. Work with the Corps of Engineers and County Flood Control District to assess alternative designs for the outlet channel which will more effectively support adjacent Reinvestment activities.
6. Provide the necessary financial commitments to carry out the new Lake Management related planning and engineering work required by the cooperative ventures.

State Parks & Recreation Department

1. Amend the Lake Elsinore Master Plan to accommodate the proposed Reinvestment Projects.
2. Work with the City to establish reasonable lake use regulations and restrictions.
3. Work with the City to assess the feasibility of the City taking over management of lake recreation and park facilities.

Elsinore Valley Municipal Water District

1. Establish a cooperative agreement with the City and the other participating agencies which will set forth an appropriate sharing in repayment of lake management costs.
2. Establish a cooperative agreement which will designate EVMWD as the agency responsible for any lake management related water sales or storage programs.
3. Explore ways to effectively replenish lake water lost through evaporation at the least cost.

4. Explore the possibility of providing permanent water flow within the Outlet Channel through the Downtown Riverwalk Area at a reasonable cost.

County of Riverside

1. Establish with the City a cooperative redevelopment project for the Grand Avenue Reinvestment Area which would include committing a certain portion of tax increment flow.
2. Work with the City in securing development commitments for within the proposed redevelopment area which would reinforce and support the Reinvestment and Lake Management Programs repayment of the lake mangement debt.
3. Cooperate with the City in preparing a master plan of development for the Grand Avenue Area and process the necessary zone changes and General Plan Amendment.

County Flood Control District

1. Cooperate with the City in preparing a master plan of development for the Outlet Channel Area which would possibly include a means to provide a permanent water amenity.
2. Establish a cooperative property acquisition program for the Outlet Channel right-of-way and adjacent redevelopment projects.
3. Establish a cooperative agreement for the on-going maintenance of the Outlet Channel.

SAWPA

1. Execute an agreement with SAWPA which would establish the mutual commitments and responsibilities which are needed to implement the cooperative endeavors discussed herein.
2. Utilize SAWPA as the agency to acquire all the properties which are needed for flood storage, public recreation and inlet channel purposes.
3. Work with SAWPA to secure the necessary 404 permit from the Corps of Engineers and support from Federal Fish and Wildlife, etc.
4. SAWPA would continue to serve as project manager for construction of lake management facilities and also serve as a facilitator to help address the on-going management and organizational structure issues.

SUBCOMMITTEE RECESS

Senator REID. This subcommittee stands in recess until 2 p.m. tomorrow afternoon.

[Whereupon, at 3:15 p.m., Wednesday, April 5, the subcommittee was recessed, to reconvene at 2 p.m., Thursday, April 6.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1990

THURSDAY, APRIL 6, 1989

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2:10 p.m. in room SD–192, Dirksen Senate Office Building, Hon. J. Bennett Johnston (chairman) presiding.

Present: Senator Johnston; aso present: Senator Dole.

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator JOHNSTON. The subcommittee will come to order.

I welcome all these outstanding people here, most of whom are from the extreme western part of Louisiana, also known as Texas, and a few Kansans here. I see the most outstanding Kansan of them all, Bob Dole, he is here. And Jack Brooks, who runs my affairs over in Texas, is here. Jack is pretty well literate. He runs just about everything up here in the Congress, in case you did not know. But in any event, Mr. Leader, did you want to——

Senator DOLE. I want Jack to go first.

Senator JOHNSTON. Well, I do want to seriously recognize——

Mr. BROOKS. There must be some ecumenical deal. It will cost me. [Laughter.]

What do you think it will cost me?

Senator JOHNSTON. Plenty.

Mr. BROOKS. He will have 14 bills in the Judiciary Committee.

Senator JOHNSTON. I am glad to present my good friend, who was born in Louisiana, the chairman of the Judiciary Committee, Congressman Jack Brooks.

STATEMENT OF HON. JACK BROOKS, U.S. REPRESENTATIVE FROM TEXAS

Mr. BROOKS. Thank you very much, Mr. Chairman.

I want to thank you for the opportunity to appear here and urge the subcommittee's favorable consideration of the public works projects for the Ninth District of Texas included in the fiscal year budget for 1990. I support all the funding of the projects included in the budget proposal and in the interest of time will submit a list of them with my statement rather than discuss each one individually.

It gives me pleasure to advise you that, with the exception of one, all of the authorized projects in my district are being appropriately funded. The Taylor's Bayou flood control and drainage project, our Clear Creek flood control project, both of which took your continuing support to finally reach a construction stage, are both funded to capability levels in the budget, for which I and the local sponsors are deeply grateful.

WALLISVILLE LAKE, TX

Mr. Chairman, the one exception that I referenced above is the Wallisville saltwater barrier project. As you recall, the Fifth Circuit Court of Appeals released the Wallisville Lake project from a 14-year-old environmental injunction in May 1987. At that time, the Corps of Engineers expressed a capability of $4 million but was later instructed, I assume by the OMB, to withdraw it. The Corps has completed initial design and is ready to initiate construction, continue construction, and the Congress has appropriated $1 million over the last 2 fiscal years, but OMB has refused to release these funds to the Corps.

At this time, I want to urge the funding of the Corps' original capability of $4 million and the bill language that will direct the OMB to release the previously congressionally appropriated $1 million so that the Corps can continue construction. You may recall that such directive language was included in the emergency supplemental appropriations bill last year. Legislation was not brought to the House floor for a vote.

I appreciate your coming in here and your kind consideration of this request. All of these Federal public works projects are critical to the economic development and the economic survival of my district with as many petrochemical plants and heavy industrial operations so vital to our country. Ports along the Texas gulf coast are an integral part of the economy of the Nation. These projects ensure their productivity and growth and help remove the ever-present threat of flooding and its tragic effects.

INTRODUCTION OF SUPPORTING WITNESSES

Mr. Chairman, I have with me a number of persons vitally concerned with the projects. They are all here to support these statements, to answer any questions the subcommittee may have. With your permission, I would like to introduce them.

Bob Wicklander and Jan Jordan of the city of Friendswood, Mayor Joe Lamb from League City, County Commissioner Wayne Johnson, Flood Control Director Jim Green and Alicia Kleckley. Then, from Jefferson County, Mrs. Cheryl LeBlanc and Judge Richard LeBlanc. You can understand why I have to introduce her first. Ben Goldstein, general manager/port director in Port Arthur; and Mike Hatton, one of the best grocery salesmen you ever saw. Frank Bejarano. I am not too good at pronouncing his name, but he is a wonderful man. He is chairman of the Clear Creek Drainage District, accompanied by Vice President Frank Frankovich.

From Galveston Drainage District No. 2, we have Commissioner Ed Ross; and from Drainage District No. 6 we have Sam Smith, Josh Allen, Pat Henderson, Ronnie Platt and Kim Carroll. From

Drainage District No. 7, we have Tom Hogan, Duffy Adair, Julian Coghill, Mr. and Mrs. Joe Lyday and Aimdee Morgan in the amen row here. We have the Hon. Mark Stiles standing in the back, with the beard. He is a fine man. If you think he looks bad now, you should have seen him when I first got him. He is a State representative down there, represents everybody. Representative Dan Morales from San Antonio; Hubert Oxford III, distinguished lawyer; the Hon. Ben Campbell. He is a Republican. I wanted Mr. Dole—Dole met him.

Do not leave now. We are not crowding you out. Charles Terrell, the chairman of the Texas Department of Corrections. I would like to also, with your permission, submit for consideration to the subcommittee statements in support of these projects from the cities of Friendswood, Groves, Nederland, Port Arthur, and Texas City; from the counties of Jefferson and Galveston; and from the ports of Beaumont and Port Arthur; from the Clear Creek Drainage District, from Jefferson County Drainage Districts 3, 6, and 7; and from the Jefferson County Navigation District and the Trinity River Authority.

I want to thank you. If you have any questions, we will be delighted to help.

Senator JOHNSTON. Mr. Chairman, I appreciate your bringing us up to date on all these projects. Of course, we were brought up to date by you almost every month of the year, as things go on, and that is why they have all been funded by this committee.

The only problem you have got, of course, is with Wallisville Lake, which we funded and which you have got problems with OMB and with the Corps, which we have tried to help you with. But we are going to continue to take care of you, Mr. Chairman. We always do. We expect you to take care of us over there in the House.

Mr. BROOKS. I have all of my relatives—it always costs you. Plus I have got to get all of my relatives in Louisiana supporting him.

Senator JOHNSTON. I appreciate it, Mr. Chairman.

[The statement follows:]

STATEMENT OF CONGRESSMAN JACK BROOKS OF TEXAS

MR. CHAIRMAN, THANK YOU FOR THIS OPPORTUNITY TO APPEAR TODAY TO URGE THE SUBCOMMITTEE'S FAVORABLE CONSIDERATION OF THE PUBLIC WORKS PROJECTS FOR THE NINTH CONGRESSIONAL DISTRICT OF TEXAS INCLUDED IN THE FISCAL YEAR 1990 BUDGET.

MR. CHAIRMAN, I SUPPORT FUNDING ALL OF THE PROJECTS INCLUDED IN THE BUDGET PROPOSAL AND IN THE INTEREST OF TIME WILL SUBMIT A LIST OF THEM WITH MY STATEMENT RATHER THAN DISCUSS EACH ONE INDIVIDUALLY.

IT GIVES ME GREAT PLEASURE TO ADVISE THAT, WITH THE EXCEPTION OF ONE, ALL OF THE AUTHORIZED PROJECTS IN MY DISTRICT ARE BEING APPROPRIATELY FUNDED. THE TAYLOR'S BAYOU FLOOD CONTROL AND DRAINAGE PROJECT AND OUR CLEAR CREEK FLOOD CONTROL PROJECT, BOTH OF WHICH TOOK YOUR CONTINUING SUPPORT TO FINALLY REACH THE CONSTRUCTION STAGE, ARE BOTH FUNDED TO CAPABILITY LEVELS IN THE BUDGET, FOR WHICH I AND THEIR LOCAL SPONSORS ARE DEEPLY GRATEFUL.

MR. CHAIRMAN, THE ONE EXCEPTION I REFERENCED ABOVE IS THE WALLISVILLE SALTWATER BARRIER PROJECT. AS YOU WILL RECALL, THE 5TH CIRCUIT COURT OF APPEALS RELEASED WALLISVILLE FROM A 14 YEAR-OLD ENVIRONMENTAL INJUNCTION IN MAY 1987. AT THAT TIME, THE CORPS OF ENGINEERS EXPRESSED A CAPABILITY OF $4 MILLION BUT WAS LATER INSTRUCTED, I ASSUME BY OMB, TO WITHDRAW IT. THE CORPS HAS COMPLETED INITIAL DESIGNS AND IS READY TO CONTINUE CONSTRUCTION. CONGRESS HAS APPROPRIATED $1 MILLION OVER THE LAST TWO FISCAL YEARS FOR CONSTRUCTION, BUT OMB HAS REFUSED TO RELEASE THESE FUNDS TO THE CORPS.

AT THIS TIME, I AGAIN URGE THE FUNDING OF THE CORPS' ORIGINAL CAPABILITY OF $4 MILLION AND BILL LANGUAGE THAT DIRECTS THE OMB TO RELEASE THE PREVIOUSLY CONGRESSIONALLY APPROPRIATED $1 MILLION SO THAT THE CORPS CAN RESUME CONSTRUCTION. YOU MAY RECALL THAT SUCH DIRECTIVE LANGUAGE WAS INCLUDED IN THE EMERGENCY SUPPLEMENTAL APPROPRIATIONS BILL LAST YEAR, HOWEVER, THAT LEGISLATION WAS NOT BROUGHT TO THE HOUSE FLOOR FOR A VOTE.

MR. CHAIRMAN, I APPRECIATE YOUR KIND CONSIDERATION OF THIS REQUEST. ALL OF THESE FEDERAL PUBLIC WORKS PROJECTS ARE CRITICAL TO THE ECONOMIC DEVELOPMENT OF MY DISTRICT WITH ITS MANY PETROCHEMICAL PLANTS AND HEAVY INDUSTRIAL OPERATIONS THAT ARE SO VITAL TO OUR COUNTRY. PORTS ALONG THE TEXAS GULF COAST ARE AN INTEGRAL PART OF THE ECONOMY OF THE NATION AND THESE PROJECTS INSURE THE PRODUCTIVITY AND GROWTH OF THAT AREA AND HELP TO REMOVE THE EVER-PRESENT THREAT OF FLOODING AND ITS TRAGIC EFFECTS.

I HAVE WITH ME TODAY A NUMBER OF PERSONS VITALLY CONCERNED WITH THESE PROJECTS. THEY ARE HERE TO SUPPORT THESE STATEMENTS AND TO ANSWER ANY QUESTIONS THE SUBCOMMITTEE MAY HAVE. I WOULD LIKE TO INTRODUCE THEM AT THIS TIME...

CITY OF FRIENDSWOOD

COUNCILWOMAN JAN JORDAN

COUNCILMAN BOB WICKLANDER

CITY OF LEAGUE CITY

MAYOR JOE LAMB

COUNTY OF GALVESTON

COMMISSIONER WAYNE JOHNSON

COUNTY OF HARRIS

FLOOD CONTROL DIRECTOR JIM GREEN

ALICIA KLECKLEY

COUNTY OF JEFFERSON

JUDGE RICHARD P. LeBLANC AND MRS. CHERYL LeBLANC

COMMISSIONER ED MOORE

PORT OF PORT ARTHUR

BEN GOLDSTEIN, GENERAL MANAGER/PORT DIRECTOR

MICHAEL HATTON, PRESIDENT, BOARD OF COMMISSIONERS

CLEAR CREEK DRAINAGE DISTRICT

CHAIRMAN FRANK J. BEJARANO

VICE PRESIDENT FRANK FRANKOVICH

GALVESTON COUNTY DRAINAGE DISTRICT #2

COMMISSIONER ED ROSS

JEFFERSON COUNTY DRAINAGE DISTRICT #6

PRESIDENT SAM O. SMITH

COMMISSIONER JOSH ALLEN

COMMISSIONER PAT HENDERSON

GENERAL MANAGER RONNIE E. PLATT

KIM CARROLL

JEFFERSON COUNTY DRAINAGE DISTRICT #7

MANAGER TOM HOGAN

COMMISSIONER M. J. "DUFFY" ADAIR

COMMISSIONER JULIAN COGHILL

COMMISSIONER JOE LYDAY AND MRS. LYDAY

COMMISSIONER AIMDEE MORGAN

THE HONORABLE MARK STILES

HUBERT OXFORD III

THE HON. DAN MORALES

THE HON. BEN CAMPBELL

CHARLES JERRELL, CHMN. TX. DEPT CORRECTIONS

I ALSO SUBMIT FOR THE CONSIDERATION OF THE SUBCOMMITTEE STATEMENTS IN SUPPORT OF THESE PROJECTS FROM THE FOLLOWING:

CITIES OF:

FRIENDSWOOD

GROVES

NEDERLAND

PORT ARTHUR

TEXAS CITY

COUNTIES OF:

GALVESTON

JEFFERSON

PORTS OF:

BEAUMONT

PORT ARTHUR

CLEAR CREEK DRAINAGE DISTRICT

JEFFERSON COUNTY DRAINAGE DISTRICT NOS. 3, 6, AND 7

JEFFERSON COUNTY NAVIGATION DISTRICT

TRINITY RIVER AUTHORITY

NINTH DISTRICT, TEXAS PROJECTS
FY 1990 FUNDING REQUESTS
(Amounts in $ Thousands)

Project or Study	President's FY 1990 Budget	Corps' Capability	JB's Request
SURVEYS:			
Gulf Coast Intracoastal Waterway	$ 350	$ 350	$ 350
PRECONSTRUCTION ENGINEERING AND DESIGN:			
Houston-Galveston Navigation Channels	700	700	700
CONSTRUCTION:			
Clear Creek	6,100	6,100	6,100
Taylor's Bayou	5,600	5,600	5,600
Texas City & Vicinity Flood Control	845	845	845
Wallisville Lake	0	0	4,000
OPERATIONS AND MAINTENANCE:			
Galveston Harbor & Channel	45	45	45
Gulf Intracoastal Waterway	15,779	15,779	15,779
Houston Ship Channel	5,510	5,510	5,510
Sabine-Neches Waterway	3,125	6,215	6,215
Texas City Channel	1,725	1,725	1,725
Trinity River & Tributaries	20	20	20
Wallisville Lake	225	225	225

STATEMENT OF JEFFERSON COUNTY NAVIGATION DISTRICT, BEAUMONT, TX

SABINE-NECHES WATERWAY

The Jefferson County Navigation District of Beaumont, Texas is the local sponsor of the Sabine-Neches Waterway as authorized by Congress.

The Sabine-Neches Waterway is a federally maintained navigaiton project extending from the Gulf of Mexico, through a jettied entrance at the mouth of Sabine Pass, inland to the deepwater ports of Port Arthur, Beaumont, and Orange, Texas, a total distance of approximately 84 miles. The project includes deep draft channels of the following dimensions; 42 feet deep and 800 feet wide across the Sabine Bank in the Gulf of Mexico; 40 feet deep and a varying width of 800 feet to 500 feet through the jetty channel; a depth of 40 feet and a width of 500 feet from the jetty channel to the Turning Basins at Port Arthur; a 40 foot depth and a 400 foot width from Port Arthur via the Sabine-Neches Canal and the Neches River to the Port of Beaumont; a 30 foot depth and a 200 foot width from mouth of Neches River upstream thru the Sabine River to the Port of Orange.

In addition to the above dry cargo ports, Mobil Oil Corporation, Texaco, Chevron, American Petrofina Company of Texas and Union Oil Company of California have located their major refineries along this ship channel. These five refineries have a total rated processing capacity of more than 1,000,000 barrels of crude oil per day. This is approximately 12% of the nation's refining capacity. A great majority of this crude oil is imported by tankers through this waterway and the ports and energy related industries along this channel have billions of dollars invested in pipe lines, tanks, wharves, docks and other plant installations.

A recent survey indicates that the principle industries of this area are engaged in a 33 million dollar expansion and modernization program, and other projects are on the drawing board.

In addition to providing crude oil to the local refineries, Sun Marine Terminals also furnishes others with considerable oil. The Department of Energy has invested in excess of 35 million dollars in Sunoco's Neches River facilities, not including the cost of a pipeline to the Hackberry Strategic Reserve Salt Dome oil storage terminal, nor does it include the development of the Big Hill Storage Terminal, the construction of which is nearly complete. The majority of this commodity is foreign imported crude oil and the handling requires the use of many large tankers which further overcrowds this already extensively used ship channel.

All of the foregoing development is largely due to the existence of the Sabine-Neches Waterway, our area's life line to the world for its exports and imports.

This extensive and expanding complex comprises a critical basic energy related industry that is absolutely vital to the nation's economic and energy and defense needs. Their diminution for any reason would have a deleterious effect nationally as well as regionally.

The U.S. Corps of Engineers reported that, in 1986 (the latest tonnage figures available), the Sabine-Neches Waterway Ports of Beaumont, Port Arthur, Sabine Pass and Orange handled more than 47,000,000 tons of dry and liquid cargoes, and, indications are that tonnages for the years 1987 and 1988 are greater than those shown for 1986. Shipping of this magnitude necessarily involves the use of a great many vessels which, of course, creates congestion on the waterway. To compound the problem, the present size of the oil tankers, grain vessels and cargo ships using this waterway are such that an even deeper

and wider chanel is needed at times, hence the importance of maintaining the waterway free of shoals.

Recent studies by the Corps of Engineers and complaints from the shipping industry reflect that there is continuous serious siltation and shoaling in the Gulf entrance channel at Sabine, and continuous extensive shoaling along several reaches of the inland channels. They find that these conditions will rapidly become worse, and, if not corrected, eventually the channel could be closed to deep sea navigation.

Correcting these conditions will decrease chances of collisions and groundings of the many vessels carrying crude oil and refined products. Such occurrences, as stated by the Corps of Engineers in their environmental impact report "would result in adverse environmental impact and public health hazards". Failure to maintain the channel would result in severe adverse economic effects on the project area, the state and even the nation. Effects would include the loss of billions of dollars worth of facilities adjacent to the channel, loss of employment for thousands of people and disruption of the manufacture and transportation of a significant portion of the nation's "fossil fuel supply".

The Corps of Engineers' breakdown of the 3 million one hundred twenty-five thousand dollars included in the proposed budget for F.Y. 1980 will be utilized for dredgint the Entrance Channels, the Port Arthur and Sabine-Neches Canals, and, the rehabilitation of a section of the Sabine Pass Jetties.

As the sponsoring agency, Jefferson County Navigation District stands ready to provide all needed disposal land areas, rights-of-way, relocations and confining structures for this project.

The District, representing the above mentioned many ports, refineries, grain elevators and other shippers using this Waterway, supported by our Congressman, the Honorable Jack Brooks, respectfully request your favorable consideration for the inclusion of 3 million one hundred twenty-five thousand dollars in the F.Y. 1990 budget, in order that this badly needed work may be accomplished.

TAYLORS BAYOU

Jefferson County Navigation District is one of the sponsors of the Taylors Bayou Drainage and Flood Control Project. It is also responsible for the maintenance and operation of a newly constructed saltwater barrier and drainage gates, this unit also being a part of the Taylors Bayou Drainage and Flood Control Project. In addition to the foregoing, we maintain and operate existing navigation locks and drainage gates, also vital components of the drainage system for the Taylors Bayou watershed.

The Taylors Bayou Project is approximately 50% complete. Except for providing a bridge fender system, work on Phase I is complete. Considerable channel rectification work has been accomplished on Phase II and the realization of this drainage imporvement project is much nearer to reality. Therefore, it is important that sufficient funds be provided to continue this urgently needed work before more costly damages are inflicted on the home owners and businesses of our community

As one of the sponsoring agencies, Jefferson County Navigation District stands ready to meet its commitments to furnish its share of the local assurances required.

The District representing the people and industries of this district, and supported by our Congressman, the Honorable Jack Brooks, respectfully request that 5 million six hundred thousand dollars be included in the F.Y. 1990 budget, in order that this highly important work can be continued.

STATEMENT OF JEFFERSON COUNTY DRAINAGE DISTRICT NO. 6

Over the past several years the Taylors Bayou Drainage and Flood Control Project has been moving ahead with the acquisition of channel rights of way, the purchase of spoil disposal areas, the coordination of mitigation with environmental agencies, and the widening and deepening of the main channels. These efforts are to provide better drainage and flood relief as well as to enhance the navigability of these waterways.

Phase I became operational in the spring of 1987 and since then a reasonable degree of flood relief has been realized by residents and property owners in the area. Phase II is well underway and with each section completed additional benefits will be received.

This project would not be possible without federal assistance and the continuing efforts of our own Congressman Jack Brooks. The citizens of this area are indebted to the several Congressional committees that review appropriations each year and have seen fit to continue funding for the Taylors Bayou Project.

The funding level for fiscal year 1990 is $5.6 million. The District supports this request and urges you to approve it.

Additionally, the District also supports the funding requests for the Sabine-Neches Waterway (O&M) for $3,125,000, the Gulf Intracoastal Waterway (O&M) for $15,779,000 and the Gulf Intracoastal Waterway (Survey) for $350,000.

Your thoughtful consideration and approval of funding for these very important and beneficial projects is requested and appreciated.

STATEMENT OF JEFFERSON COUNTY DRAINAGE DISTRICT NO. 3

Works on the Taylor's Bayou Drainage and Flood Control Project has continued to progress for several years and during that period of time a great deal has been accomplished. The citizens and residents of this area are anxiously awaiting the day when we can say that the project has been completed.

Since work has commenced, the outfall channel for the project has been completed, the widening and deepening of the intercoastal water way has been completed and the salt water barrier and seven salt water intrusion gates have been installed. Phase I of the project is almost totally completed. Phase II of the project is well under way and the widening and deepening of Taylor's Bayou has commenced under Phase II of the project. It is of vital importance that Phase II of the project be continued and finished as soon as possible in order to tie in the overall project so that flooding of the homes, residential areas and vital farm land will no longer continue.

The Corps of Engineers has informed us that they are proceeding with Phase II and the $5.6 million allocated in the current proposed budget for the continued work on this project is of vital importance to the area.

Jefferson County Drainage District No. 3 is again requesting your support and assistance in having this amount included in the budget for the fiscal year 1990.

STATEMENT OF CLEAR CREEK DRAINAGE DISTRICT

THE CLEAR CREEK DRAINAGE DISTRICT OFFERS THIS STATEMENT IN SUPPORT OF THE U.S. ARMY CORPS OF ENGINEERS' CLEAR CREEK (TEXAS) FLOOD CONTROL PROJECT WITH THE REQUEST FOR CONTINUING CONSTRUCTION FUNDING IN FY-1990.

The Clear Creek Flood Control Project is an absolute necessity to the health, safety, and well-being of the people who live in the Clear Creek watershed. As the land in the watershed has undergone development, pastures and farmland have been converted to parking lots, streets, runways, buildings, and other surfaces from which rain water runs off extremely rapidly. Although there have been, and continue to be, improvements made to drainage arteries in the region by local agencies, consistent with their resources, and although storm water run-off and flood plain control has been in effect in the counties of the Clear Creek watershed since 1979-80, the effects of land development and subsidence have already reached the point that Clear Creek simply cannot carry storm water away to Galveston Bay fast enough to keep water out of our homes. So, until Clear Creek is improved in its water handling capacity, we do not not have the ability to make substantial improvement to the flood hazards that our citizens are living with every day.
citizens are living with every day.

People here realize that it is not feasible to prevent flooding by a storm like Claudette which struck this area in July, 1979 and dropped 30-40 inches of rain on us in a two-day period. However, our people are getting water in their homes when much less spectacular rains occur -- five-year to ten-year frequency precipitation is causing flooding. Even those people who are not getting water in their homes are impacted: street flooding is so severe that emergency vehicles cannot get through. A fire or serious medical problem occuring during, or for many hours after, such rains, would go unanswered in many places.

The Corps of Engineers has devised a plan for improving Clear Creek that is economically sound (benefit to cost ratio of 2.6), environmentally acceptable, and will completely contain the watershed run off for a ten-year frequency storm. Furthermore, the 100-year flood plain will be reduced by 25% overall in the watershed. We fervently hope that appropriation of construction funds will <u>again</u> be approved and included in the FY-1990 Budget. The Project is not frivolous, nor a convenience type of improvement--it deals with people's safety and health, both physical and psychological. Many of our people fear rain; anxiety levels run very high when a heavy heavy rain lasts more than a couple of hours, expecially when water starts to rise in the streets and into people's yards!

Gentlemen, we NEED the Clear Creek Project and respectfully request that the additional construction funding of $6.1 million be included in the FY-1990 Budget.

STATEMENT OF THE GALVESTON COUNTY, TX, COMMISSIONERS COURT

Galveston County has been the local sponsor with the U.S. Corps of Engineers for the construction of various flood control projects in Galveston County since the first seawall was started in Galveston shortly after the 1900 Hurricane. The Galveston Seawall has now been extended in length to approximately 10 miles protecting the most populated part of the City of Galveston.

TEXAS CITY HURRICANE-FLOOD PROTECTION LEVEE

In 1962 (some 14 years after the first local bond issue was passed), construction began on the seawall protecting the cities of Texas City and La Marque from the ravages of hurricanes and high tides of Galveston Bay. The Texas City Hurricane-Flood Protection Levee was completed in 1987. However, serious erosion has occurred along the toe of the Seawall Levee fronting on Galveston Bay, and corrective action is urgently needed. We appear before this Committee to request funds for the U.S. Corps of Engineers to assist Galveston County in correcting the problem.

Although the Texas City Hurricane-Flood Protection Levee was finally completed in 1987 after 25 years of construction, serious erosion problems have developed along the shoreline fronting on Galveston Bay from approximately the Texas City Dike to State Highway 146, a distance of between three and four miles. In one particular area of approximately 2 miles, the shoreline has eroded over 200 feet in the last 20 years and has violated the toe of the levee in several locations. With the approval of the Corps of Engineers, Galveston County has already let a contract for a very short distance, about 1,000 feet, where we believe delay of any kind would adversely affect the seawall, and the Corps now has an approved project to assist the County with the remaining approximately two miles of the project. The $845,000 in the Administration's Budget for Texas City and Vicinity Flood Control is for this erosion control to begin, and we urge the Committee's approval of those funds to be used on this urgent corrective action.

CLEAR CREEK FLOOD CONTROL PROJECT

The final flood control project on-going sponsored by Galveston County is along Clear Creek in the cities of League City and Friendswood in cooperation with the Harris County Flood Control District. Construction is now scheduled to start within a few months. Galveston County, Harris County, and the U.S. Corps of Engineers signed the Clear Creek contract on June 30, 1986, on the Highway 146 bridge over Clear Creek on the boundary between Galveston and Harris counties. We appear before this Honorable Committee to urge your support for appropriations for construction on Clear Creek.

The Galveston County Commissioners Court respectfully urges the Honorable Committee to approve $6,100,000 in construction funds for the Clear Creek Flood Control Project. These funds are included in the Administration's Budget for FY 1990, and the U.S. Corps of Engineers will let a contract for the first phase of this project during FY 1989 so the project is finally underway.

It is extremely important that the Clear Creek Flood Control Project begin construction in FY 1989 and continue in FY 1990 with the funds recommended by the Administration. After approximately 15 years of planning, the Corps of Engineers made final engineering decisions on this project in 1983 and has completed detailed engineering design for the second outlet from Clear Lake to Galveston Bay and the flood gate to control flow. The Design Memorandum has been approved for construction. This project is designed to provide flood relief for over 500,000 people in the Clear Creek watershed in Galveston and Harris counties. It was also designed in such a way as to protect the

sensitive environment of Clear Creek, and this decision received overwhelming public support in a January, 1982, public hearing. The two local sponsors, Galveston County and Harris County, support the Corps of Engineers design which will accommodate a 10-year flood with the remainder of the 100-year flood plain to be protected by flood plain management.

In 1979, over 2,000 homes in Friendswood and League City along Clear Creek were flooded twice--in July from Tropical Storm Claudette and again in September. Several thousand homes were also flooded in Brazoria and Harris counties. Losses from flooding in these three counties from the 1979 floods were well over $200,000,000. People are desperate to do sometning--almost anything--on Clear Creek, and the Corps of Engineers is trying to expedite this project.

Inasmuch as the Clear Creek Flood Control Project has been in the study and design stage for 21 years (authorized in 1968), it is most urgent that when construction starts this year, it continues in FY 1990 and beyond. The study has been a high priority by the Corps of Engineers and over $2,500,000 in planning and engineering has already been spent. We sincerely hope you will approve $6,100,000 in construction funds for FY 1990 for construction of the project. Galveston County passed a $5,000,000 bond election in November, 1985, to provide its local share of the cost. Thus, we are ready, willing, and able to assume our local responsibility for this project.

Thank you for your consideration of these requests and for your time in allowing us to be present at these hearings. We stand ready to assist you in any way and to furnish any additional information you may require.

STATEMENT OF THE CITY OF NEDERLAND, TX

This is to advise that the City of Nederland is situated in the Ninth Congressional District, Texas, and recommends your consideration of FY 1990 Budget appropriations for the following projects:

PROJECT	FY 1990 BUDGET
Clear Creek (Construction)	6,100,000
Galveston Harbor & Channel (O&M)	45,000
Gulf Intracoastal Waterway (O&M)	15,779,000
Gulf Intracoastal Waterway (Survey)	350,000
Houston Ship Channel (O&M)	5,510,000
Houston-Galveston Navigation Channels (Precon. Engn. & Design)	700,000
Sabine-Neches Waterway (O&M)	3,125,000
Taylors Bayou (Construction)	5,600,000
Texas City & Vicinity Flood Control (Construction)	845,000
Texas City Channel (O&M)	1,725,000
Wallisville Lake (O&M)	225,000

Your consideration of these recommendations is appreciated.

RESOLUTION OF FRIENDSWOOD, TX

RESOLUTION NO. R89-10

A RESOLUTION ENDORSING THE U.S. ARMY CORPS OF ENGINEERS CLEAR CREEK FLOOD CONTROL PROJECT; AND URGING THE UNITED STATES CONGRESS TO ACT FAVORABLY ON THE FY1989 BUDGET.

WHEREAS, a serious flood problem exists in the Clear Creek Watershed where existing residential and commercial areas are periodically subject to extensive damages from rising waters in the creek; and

WHEREAS, in the City of Friendswood in July 1979, 1600 out of 3000 homes were flooded with coincident economic losses exceeding $38,000,000; and

WHEREAS, in the City of Friendswood in September 1979, 500 of these homes were again flooded; and

WHEREAS, in the City of Friendswood in January 1980, 75 of these homes were again flooded; and

WHEREAS, the citizens continue to suffer economic loss and mental anquish as a result of flooding; and

WHEREAS, the citizens have been donating their time and labor in an effort to clear the creeks and banks of debris; and

WHEREAS, the United States Congress in 1939 authorized the U.S. Army Corps of Engineers to begin a study of Clear Creek; and

WHEREAS, the United States Congress in 1968 authorized the U.S. Army Corps of Engineers to design a flood control project which would provide a significant measure of protection from recurring flooding problems in the Clear Creek Watershed; and

WHEREAS, the study has been completed and a consensus has been achieved by all local sponsors and entities and endorsed by the 67th Texas Legislature;

WHEREAS, the project has been approved by the U.S. Army Corps District in Galveston and the Corps Southwest Division; and

WHEREAS, further delays will significantly increase the cost of the project as well as the probability of additional flooding;

WHEREAS, the local sponsors of the project have agreed to provide funding for the local costs of construction; and

WHEREAS, Congress has provided funding for the first phase of construction; and

* * * * * * *

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of FRIENDSWOOD:

THAT the City re-endorse the U.S. Army Corps of Engineers Clear Creek Flood Control Project; and

THAT the City urge the Congress of the United States to adopt the budget and appropriate construction funds to that the U.S. Army Corps of Engineers may continue the rectification work; and

THAT the City urge the Congress to take whatever additional action is necessary to expedite the project and thereby reduce the emotional, physical and economic suffering due to flooding.

THAT the City Secretary forward official copies of this resolution to the President of the United States, to the Speaker of the House of Representatives and President of the Senate of the United States Congress, and to all members of the Texas Delegation to the Congress, with the request that this resolution be officially entered into the Congressional Record.

PASSED, APPROVED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD THIS THE 13TH DAY OF MARCH, 1989.

Paul W. Schrader
Mayor Paul W. Schrader
City of Friendswood

Joe Prihoda
Mayor Pro-tem Joe Prihoda

Councilmember Ron Ritter

Robert W. Wicklander
Councilmember Bob Wicklander

Phyllis J. Lee
Councilmember Phyllis J. Lee

Evelyn B. Newman
Councilmember Evelyn Newman

Jan Jordan
Councilmember Jan Jordan

ATTEST:

Deloris McKenzie
Deloris McKenzie, CMC
City Secretary

STATEMENT OF JEFFERSON COUNTY, TX, COMMISSIONERS' COURT

The Commissioners' Court of Jefferson County, Texas would like to go on record in support of the following projects which pertain to Jefferson County and will be presented by Congressman Jack Brooks on Thursday, April 6, 1989:

(1) Gulf Intracoastal Waterway (O&M)
(2) Gulf Intracoastal Waterway (Survey)
(3) Sabine-Neches Waterway (O&M)
(4) Taylors Bayou (Construction)

It is our opinion that said projects should be included in the 1990 budget as these projects are vital to our area and are in the best interest of the citizens of Jefferson County.

STATEMENT OF TRINITY RIVER AUTHORITY OF TEXAS

On April 6, 1989, the Authority is scheduled to appear before the Appropriations Subcommittee on Energy and Water Development. Listed below are the projects in which the Authority serves as Local Sponsor and will be supporting in our statement. We ask that you also support them.

1. JOE POOL LAKE. Joe Pool Lake is a Corps of Engineers' flood control, water supply and recreation project located in southeast Tarrant and southwest Dallas counties. The floodgates were closed and deliberate impoundment was initiated on January 7, 1986.

   The President's Budget contains $351,000 for construction of parks and recreation facilities. Also contained in the Budget is $556,000 for operation and maintenance.

2. WALLISVILLE LAKE: Wallisville Lake is a saltwater barrier, recreation and water supply project located at the mouth of the Trinity River in Chambers and Liberty Counties.

   The 5th Circuit Court of Appeals released Wallisville from a 14 year-old environmental injunction May 1987. The Corps of Engineers expressed a capability of $4 Million but was later ordered to withdraw its expressed capability. However, Congress did appropriate $500,000 for FY 1988 and FY 1989 for construction, but OMB has refused to release these funds to the Corps. Once funds are made available, the Corps has indicated they could resume construction within ninety days.

   You are urged to support funding of the Corps' original expressed capability of $4 Million and bill language that directs OMB to release construction funds to the Corps of Engineers enabling construction to resume. The Local Sponsors (TRA, the City of Houston and the Chambers-Liberty Counties Navigation District) believe the Federal Government should honor the commitments agreed to in 1967 when a local assurance contract was signed with the local sponsors.

If we can provide you with more information, please do not hesitate to call.

STATEMENT OF THE CITY OF PORT ARTHUR, TX

The City of Port Arthur would like to go on record as being in favor of, supporting, and recommending the approval, inclusion, and funding of the following projects included in the proposed FY 1990 Budget.

	PROJECTS	DOLLARS IN MILLIONS
1.	Gulf Intracoastal Waterway Operations and Maintenance	$15.80
2.	Gulf Intracoastal Waterway Survey	$ 0.35
3.	Sabine-Neches Waterway Operations and Maintenance	$ 3.10
4.	Taylor's Bayou - Construction	$ 5.60

In consideration of the workload of the Subcommittee, this brief written statement is submitted, and the City of Port Arthur supports the presentation before the Subcommittee by our representative, Congressman Jack Brooks, of the 9th District, Texas.

STATEMENT OF THE CITY OF TEXAS CITY, TX

On behalf of the City Commission and the citizens of Texas City we sincerely request your support for adequate appropriations for the Operation and Maintenance of the Texas City Channel. The Port of Texas City handles over 41 million tons of shipping annually, the majority of which consists of raw and finished products from our multi-million dollar petro-chemical industries. The economic life of our community depends to a large degree upon the industries and the many supporting service and retail businesses. The continued maintenance and operation of the Texas City Channel would enhance other businesses locating here and would most certainly enhance the overall local economy, which has been particularly hard hit these past few years.

We would also ask your support for the Texas City & Vicinity Flood Control (Construction) for the purpose of keeping the Hurricane Protection Levee in good condition for the protection of our Texas City residents when hurricanes threaten our area. The good repair of the seawall is imperative and serves to save many lives and millions of dollars in damage to our citizens' homes and businesses and industry.

We also support the Clear Creek construction project as the residents in the Clear Creek area have been flooded repeatedly because of heavy rainfall and poor drainage. The Clear Creek construction is absolutely essential in order to relieve the problem. The citizens of Galveston County passed a $4 million dollar bond program in November, 1985, to provide its local share of the cost to this vital program that affects so many of our citizens.

We urge your support of the above projects and their inclusion in the FY1990 budget. Should you have any specific questions pertaining to these projects, we will be most willing to cooperate in providing any information we have available for the use of your committee.

RESOLUTION OF THE CITY OF GROVES, TX

RESOLUTION NO. 89-03

WHEREAS, the Groves City Council supports the following public works projects which Congressman Jack Brooks will present before the House Committee on Appropriations and Senator Lloyd Bentsen will present before the Senate Committee on Appropriations for funding in the fiscal year 1990 Budget:

Clear Creek (construction)	$ 6,100,000
Galveston Harbor & Channel (operation & maintenance)	45,000
Gulf Intracoastal Waterway (operation & maintenance)	15,779,000
Gulf Intracoastal Waterway (survey)	350,000
Houston Ship Channel (operation & maintenance)	5,510,000
Houston-Galveston Navigation Channels (precon. engineering & design)	700,000
Sabine-Neches Waterway (operation & maintenance)	3,125,000
Taylors Bayou (construction)	5,600,000
Texas City & Vicinity Flood Control (construction)	845,000
Texas City Channel (operation & maintenance)	1,725,000
Wallisville Lake (operation & maintenance)	225,000

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GROVES, TEXAS:

THAT this body does hereby go on record as wholeheartedly supporting the above projects for funding in the fiscal year 1990 Budget; and

BE IT FURTHER RESOLVED that a copy of this resolution be furnished Congressman Jack Brooks, Senator Lloyd Bentsen, and members of the House and Senate Committees on Appropriations as evidence of the support of the Groves City Council.

PASSED, APPROVED and ADOPTED this 6th day of March, 1989.

ATTEST:

Sylvester Moore

Sylvester Moore, Mayor

Gene K. Graham

Gene K. Graham, City Clerk

STATEMENT OF PORT OF BEAUMONT NAVIGATION DISTRICT OF JEFFERSON COUNTY, TX

The Port of Beaumont Navigation District of Jefferson County, Texas strongly supports those items in the budget for public works for fiscal year 1990 which propose a total of $4,627,000 for the continued operation and maintenance of the Sabine-Neches Waterway and $15,779,000 for the continued operation and maintenance of the Gulf Intracoastal Waterway.

The Port of Beaumont Navigation District of Jefferson County, Texas is the agency which operates and maintains the public wharves of the Port of Beaumont. These important waterways link the public wharves to the Gulf of Mexico and Inland Waterway System.

Proper maintenance of these waterways is absolutely essential if the marine terminals served by them are to continue operating at maximum efficiency. We respectfully urge your committee to approve the requested funds.

STATEMENT OF JEFFERSON COUNTY, TX, DRAINAGE DISTRICT NO. 7

Jefferson County Drainage District No. 7, as one of the local sponsors, endorses the proposed $5,600,000 provided in the 1990 fiscal year budget for the continued construction of the Taylors Bayou Project.

Taylors Bayou and tributaries drain about six / percent of Jefferson County. This project will widen and deepen these channels in order to provide necessary outlets for its drainage. The completion of this project is essential for the full realization of the benefits of upstream drainage improvements and is critical to our future growth and to the well-being of our citizens.

We request the Committee's approval of the $5,600,000 proposed in the 1990 fiscal year budget.

STATEMENT OF PORT ARTHUR PORT COMMISSION

We respectfully ask that you favorably consider the public works funds request, by our Congressman Jack B. Brooks, for the Operations and Maintenance of the Sabine Neches Waterway, Taylors Bayou and the Gulf Intracoastal Waterway of Texas. Only minimally necessary funds are requested, to insure the operation and maintenance of these vital federal waterways.

The major refineries on our Sabine Neches Waterway annually produce a high percentage of America's energy fuels. The Waterway handles up to 48,000,000 short tons of commerce, including import crudes, domestic and export shipments as well. The economic and military security of America depends on keeping these vital waterways open, now and in the future.

The Gulf Intracoastal Waterway of Texas is an indispensable connecting link between hundreds of chemical and petrochemical plants and other refineries, here and across the Gulf Coast. Combined plant investment of these essential industries exceeds $30 billion, just on the Texas segments of the Gulf Intracoastal Waterway, alone, according to estimates available.

No new construction is anticipated in these requests, and the funds appropriated are vital to our economy and national defense. Your favorable consideration is justified, we submit, and is respectfully submitted.

Senator JOHNSTON. Now we are pleased to recognize the very distinguished minority leader, who is also our good friend. We are pleased to have him.

Bob?

KANSAS WATER RESOURCE PROJECTS

STATEMENT OF HON. BOB DOLE, U.S. SENATOR FROM KANSAS

Senator DOLE. Thank you very much, Mr. Chairman.

I would ask that my statement be made part of the record, and I want to thank Jack Brooks for being here. I will send you a list over later, of items that I am interested in.

Mr. BROOKS. He will, too.

Senator DOLE. Also, the Secretary of Labor has a couple of things, Jack, also.

What I thought I would do, Mr. Chairman, is not take the committee's time, because I know you have got hours and hours and hours of hearings, that I would submit my statement, introduce my colleagues from Kansas, and then we will have two spokesmen from our area. Walt Vernon, chairman of the board of Water District No. 1 and Emanuel Cleaver, mayor pro tem in Kansas City, MO. They will be giving testimony.

We do have, of course, a lot of projects. We are in rather a strange position, in a way, in our part of the country. We have not had any rain. You wonder what are we doing asking for—it will rain sometime. We hope it will rain in the next week or so. If not, we are going to be looking to Congress for drought relief for those in the wheat areas. But in any event, the drought will end. Then we will have the drainage and flood problems we have had in the past. They are just as disastrous to urban areas unless particular measures are taken.

I think the committee understands these conditions very well. I am certain you are going to take a look at our projects as the committee has in the past. We have a number of Kansans. I would only quickly introduce those Kansans. We think we are in pretty good shape with nearly every project. We have some problems with Holstead because they are not able to come up with their share.

But the projects include flood control, ground water recharge and supply water management, operation and maintenance funding, and drainage fund conversion. Just for the record, I would indicate that with me today are Arthur T. Woodman, chairman of the Arkansas River Basin Interstate Committee of Wichita, and committee member Taylor Peckham of Augusta. Taylor has been coming here as long as I have, so he has been back here many, many times.

Representing the Kansas-Bostwick Irrigation District No. 2 are Kenneth Nelson of Courtland and Louis Allen of Formoso. The Mo-Ark Association has James Meitl, president, from Overland Park; Walt Vernon, Prairie Village; Art Davis, Lenexa; Neale Peterson, Fairway; and Ron Borst and Fred Gibson, Kansas City, MO. At least two of that group will be sharing their views.

I would just say I appreciate the courtesy extended to me. I ask that my statement be made a part of the record.

PREPARED STATEMENT

Senator JOHNSTON. Your statement will be put in the record. We will, I assure you, heed your advice.

[The statement follows:]

STATEMENT OF SENATOR BOB DOLE

Mr. Chairman and members of the committee. It is my pleasure to be here this afternoon and introduce several Kansans who will be testifying or offering written testimony to the committee in support of a variety of water projects and about water development issues in general.

Mr. Chairman, as you know, many areas of the United States, including Kansas, are suffering from drought conditions. Rural areas are suffering from these conditions and the result is very harmful to these rural economies and slow needed community rural development initiatives.

However, someday the drought will end. Rains will come and we will face drainage and flooding problems that are just as disastrous to rural and urban areas unless particular measures are taken.

The committee understands these conditions very well and I am confident that upon careful review, many of these projects will be undertaken and implemented.

Mr. Chairman, it is my pleasure to introduce to the committee several Kansans who are here representing a variety of groups that will be offering testimony on a number of worthy projects.

These projects include flood control, groundwater recharge and supply, water management, operation and maintenance funding, and drainage fund conversion.

With me here today are: Arthur T. Woodman, chairman of the Arkansas River Basin Interstate Committee, Wichita, and committee member Taylor Peckham, Augusta. Representing the Kansas-Bostwick Irrigation District No. 2 are Kenneth Nelson, Courtland; and Louis Allen, Formoso. From the Mo-Ark Association are James Meitl, president, Overland Park; Walt Vernon, Prarie Village; Art Davis, Lenexa; Neale Peterson, Fairway; and Ron Borst and Fred Gibson, Kansas City, Missouri.

Mr. Chairman, these able individuals will be sharing the details of these various projects with you later today. I look forward to working with you and the other members of the committee on these and other water issues and I appreciate evey courtesy you have extended to these Kansans who are here today.

PREPARED STATEMENTS OF SENATORS BENTSEN AND GRAMM, AND CONGRESSMAN FIELDS OF TEXAS

Senator JOHNSTON. We will also place in the record the prepared statements of Senators Bentsen and Gramm, and Congressman Jack Fields of Texas.

[The statements follow:]

STATEMENT OF SENATOR LLOYD BENTSEN

Mr. Chairman, members of the subcommittee, as has been my custom for the last few years, I simply want to emphasize my support for the water projects included in the President's civil works budget and to urge you to include them in your appropriations bill. Several of these projects have been long in the making, and I stand by these good Texans who have come to Washington to underscore their interest in them. In past years, the subcommittee has listened and responded favorably to many of my requests for support for particular projects, and I want to express my appreciation for your consideration.

Let me take a moment to underscore my support for a project that did not make the President's budget but should have: the Red River Chloride Project. The Project's objective is to improve the quality of water in the Red River through the removal of salt pollutants. The salt pollutants in the Red River make it unsuitable as a dependable source of irrigation and municipal and industrial water supply throughout the four state area in its river basin, including areas in Arkansas, Louisiana, Oklahoma, and Texas.

Until 1986, Congress and previous Administrations had shown support for the Project, but the Reagan Administration attempted to make it an automatic casualty through defunding and budget cuts. As it was originally authorized, the federal government promised to fund 100 percent of the measures needed to control natural salt pollutants so long as the local governments would fund efforts to reduce man-made

pollution. Under threat of a Presidential veto of the Water Resources Development Act of 1986 ("Act"), we worked out a compromise with the Reagan Administration in which an independent federal panel was authorized to study and produce a report to determine whether it would be feasible to continue work to remove natural pollution in the Red River.

The State of Texas has spent millions to reduce man-made pollution and continues its regulatory efforts and other actions to control pollution. The State of Oklahoma has spent several million dollars as well. By any yardstick, these are significant contributions to the clean-up effort by these states, and they have upheld their end of a bargain that was struck several years ago.

In August of 1988, the panel issued its report to both the Corps of Engineers and Congress. Its findings were conclusive, and it recommended "that authorization be given to continue with construction of the [Project]." Despite the favorable findings of a panel of experts charged to study the feasibility of continuing work on the Project, it was not included in the Administration's civil works projects budget request for fiscal year 1990. That the Administration should choose to ignore these findings by not recommending any funds for the Project is particularly troublesome to me in light of all my work on the Project in past years and the congressional support it was shown through the enactment of the Water Resources Development Act of 1986.

It is now time for the federal government to move forward with construction. There is clear merit to the plan

to cut the salt level in the Red River. Its success will enhance agricultural productive capacity in the region, improve water delivery systems, and reduce the damage to water heaters and other household appliances. These benefits are long overdue. It is my understanding that only $2.5 million would be required for fiscal year 1990. I urge the subcommittee to place this project in the funding queue so that it may get underway.

I would also like to emphasize my concern about beach erosion along some portions of the Gulf Intracoastal Waterway. Last year, I asked that some funding be provided to study the extent of the problem and what can be done to stop it. We will need more assistance this year, and I am sure that the subcommittee will demonstrate its usual sensitivity to beach erosion problems.

Finally, I would like to urge the subcommittee to support an additional project in Harris County, Texas that is not included in the President's budget. It is the Cypress Creek Flood Control Project. It was authorized in the water resources legislation we passed last year. The flooding potential in the Cypress Creek Watershed poses a serious threat to hundreds of thousands of the citizens in Harris County. If a substantial flood were to occur today, property damage would be substantial. I don't have to emphasize to the members of this subcommittee, especially its Chairman, how serious the potential is for floods in the Gulf Coast region. We are often victims of violent storms and hurricanes, tornadoes, thuderstorms and heavy rains. These natural occurrences often cause flash flooding. Homes are flooded and evacuations take place.

The Cypress Creek Flood Control Project would help to diminish the potential for floods and evacuations, not to mention loss of life. I realize that the budget is tight and that you have competing demands to fund projects. There are few flood control projects, however, that can boast the long term cost savings as this one. And there are few areas of our country which face the same flooding threat as this portion of Harris County, Texas. I ask that you consider providing the Cypress Creek project a funding level of $500,000 for fiscal year 1990.

Mr. Chairman, members of the subcommittee, I appreciate the work that you do for my state, for our country. You and your staffs have been fair to us; you often hear us even when you cannot help; and you do yeoman's work in trying to accommodate my requests. That does not go unnoticed.

Thank you very much.

STATEMENT OF SENATOR PHIL GRAMM

Mr. Chairman and members of the subcommittee, I appreciate having the opportunity to submit the following statement on behalf of the U.S. Army Corps of Engineers' FY-90 funding request for Texas civil works projects contained in the President's proposed budget.

The development and the efficient coordination of water resources are important to the quality of life in Texas and to the future growth of my State. I believe the President's budget recognizes this fact and proposes funding for a number of essential water supply, flood control, navigation and other water resource projects.

More specifically, the President's proposed budget contains the funding requests for the following programs:

SURVEYS: The President proposes survey funding for eight new projects as well as the completion of five surveys from previous years in Texas, including Elm Creek in Abilene ($185,000); Bardwell Lake ($60,000); Brazos River Diversion Channel ($50,000); Cameron County ($86,000); Central Colorado River Basin ($200,000); Dallas Floodway ($60,000); Denison Dam/Lake Texoma ($124,000); Fort Bend and Brazoria Counties ($200,000); Gulf Intracoastal Waterway ($350,000); Matagorda County Shore ($160,000); Matagorda Ship Channel ($250,000); San Bernard River Watershed ($250,000); Upper Trinity River Basin ($280,000). The potential of these projects should be fully explored, and I support them.

PRECONSTRUCTION ENGINEERING AND DESIGN: The President proposes ten projects to receive funds for preconstruction engineering and design activities, including Beal's Creek in Big Spring ($200,000); Brays Bayou in Houston ($500,000); Brazos Island Harbor in Brownsville ($307,000); Channel to Victoria ($300,000); Cibolo and Palo Blanco Creeks in Falfurrias ($200,000); Five Mile Creek in Dallas ($145,000); Greens Bayou in Houston ($500,000); Lower Rio Grande Basin ($350,000); McGrath Creek in Wichita Falls ($300,000); and Shoal Creek in Austin ($400,000). I support the funding levels proposed for these ten projects.

CONSTRUCTION: The President proposes construction funding for thirteen projects in Texas, including Boggy Creek ($4,200,000) for increased channelization work to alleviate flooding in the Southeast Austin area; Clear Creek ($6,100,000) for channelization work to divert floodwaters from the creek and Clear Lake into the Galveston Bay; El Paso ($5,300,000) for the completion of the Phelps Dodge Dam and to initiate construction of the Phelps Dodge Diversion Channel in El Paso; Freeport Harbor ($13,300,000) for continued construction work to widen and deepen the channel and construction of a new north jetty at Freeport; Joe Pool Lake ($351,000) for the completion of this large water supply and flood control reservoir in the Dallas/Fort Worth area; Lake Wichita/Holliday Creek ($7,600,000) for continued channelization work along Holliday Creek in Wichita Falls and dam repair work at Lake Wichita that will ultimately provide the area with a long-term flood control plan; Mouth of the Colorado River ($6,200,000) which will divert floodwaters in Matagorda County into the Gulf of Mexico; Ray Roberts Lake ($19,000,000) to continue the construction of recreational facilities at this project in the Metroplex area; San Antonio Channel Improvements ($17,000,000) to continue work on diverting floodwaters from San Antonio-area creeks away from the downtown area beyond the city; Sims Bayou ($4,000,000) for channelization work to help control flooding in South Houston; Cooper Lake ($31 million) for continued construction of the dam and initial funding of recreational

facilities; Taylors Bayou ($5,600,000) in Southeast Texas near Beaumont for continued channelization work that will divert floodwaters in the area to the nearby Gulf of Mexico; and Texas City & Vicinity ($845,000) in Galveston County for improvements to the 27.6 mile-long Texas City dike that protects that city and parts of Galveston County from storm surges in the event of a hurricane.

OPERATION AND MAINTENANCE: The President proposes operation and maintenance funding at 43 projects in Texas. I support these requests.

Again, I believe the projects I have mentioned in this testimony are important to the future growth of Texas and I ask that the subcommittee give them favorable consideration.

Thank you for giving me the opportunity to provide this testimony, and if there is anything I can do to help you or answer any questions about any one of these projects, please let me know.

STATEMENT OF CONGRESSMAN JACK FIELDS OF TEXAS

MR. CHAIRMAN, I WANT TO THANK YOU AND THE OTHER MEMBERS OF YOUR SUBCOMMITTEE FOR ALLOWING ME TO SUBMIT THIS STATEMENT TODAY IN STRONG SUPPORT OF FY '90 FUNDING FOR THE CYPRESS CREEK FLOOD CONTROL PROJECT.

THIS PROJECT, WHICH IS LOCATED IN BOTH MY DISTRICT AND THAT OF OUR COLLEAGUE, BILL ARCHER, WOULD PROVIDE POSITIVE FLOOD CONTROL BENEFITS FOR NEARLY 200,000 OF OUR CONSTITUENTS.

AS YOU KNOW, THIS PROJECT WAS AUTHORIZED BY THE CONGRESS LAST YEAR DURING CONSIDERATION OF S. 2100, THE WATER RESOURCES DEVELOPMENT ACT OF 1988 (PUBLIC LAW 100-676).

IT IS THE PRODUCT OF MANY YEARS OF CAREFUL STUDY AND ANALYSIS BY THE CORPS OF ENGINEERS. AS RECOMMENDED AND APPROVED BY THE CONGRESS, THE CORPS' FLOOD CONTROL PLAN FOR THE CYPRESS CREEK WATERSHED CONSISTS OF THREE MAJOR ELEMENTS. THESE ARE:

* A 29.4 MILE CHANNEL TO BE CONSTRUCTED FROM THE MOUTH OF CYPRESS CREEK UPSTREAM TO U.S. 290. WORK WILL INVOLVE WIDENING, DEEPENING, AND STRAIGHTENING THE EXISTING CHANNEL

AND CONSTRUCTING A CHANNEL ABOUT 20 FEET DEEP AND TWO OR THREE FEET ABOVE THE EXISTING GROUND. BOTTOM WIDTHS OF THE CHANNEL WILL VARY FROM ABOUT 200 FEET DOWNSTREAM TO 30 FEET NEAR U.S. 290 AND TOP WIDTHS WILL VARY FROM 150 TO 300 FEET. IN ORDER TO ACCOMMODATE THE IMPROVEMENTS, SIX HIGHWAY BRIDGES WILL BE REPLACED, ONE BRIDGE WILL BE EXTENDED, 28 PIPELINES WILL BE RELOCATED, AND 25 SINGLE-FAMILY HOMES WILL BE REMOVED;

* FISH AND WILDLIFE HABITAT IMPROVEMENTS WILL BE MADE TO APPROXIMATELY 1,250 ACRES OF HARRIS COUNTY PARKLANDS AND PRIVATE LANDS LOCATED ALONG CYPRESS CREEK IN ORDER TO LESSEN ADVERSE ENVIRONMENTAL EFFECTS ASSOCIATED WITH THE LOSS OF WOODED AREAS ALONG THE CREEK CALLED FOR UNDER THE CORPS OF ENGINEERS' PLAN; AND

* ELEVEN-AND-ONE-HALF MILES OF LIGHTED HIKING/BIKING TRAILS WITH SIX-FOOT BRIDGES WILL BE DEVELOPED AT SEVEN EXISTING HARRIS COUNTY PARKS. OTHER FACILITIES TO BE CONSTRUCTED INCLUDE SEVEN PARKING AND PUBLIC ACCESS AREAS AND TWO CANOE LAUNCHING RAMPS.

WHILE THE FEDERAL SHARE OF THIS PROJECT IS $84,900,000, WHAT I AM ASKING YOU FOR TODAY, MR. CHAIRMAN, IS AN APPROPRIATION OF $500,000 IN FY '90 SO THAT THE CORPS CAN BEGIN NECESSARY PRECONSTRUCTION, ENGINEERING, AND DESIGN WORK.

MR. CHAIRMAN, I MUST TELL YOU THAT I WAS EXTREMELY DISAPPOINTED THAT MONEY FOR THIS PROJECT WAS NOT INCLUDED IN THE PRESIDENT'S FY '90 BUDGET REQUEST.

THIS PROJECT IS ENTHUSIASTICALLY SUPPORTED BY ALL INTERESTED PARTIES AND IT HAS BEEN GIVEN HIGH NATIONWIDE PRIORITY BY THE ARMY CORPS OF ENGINEERS. THERE IS NO LOGICAL REASON WHY MONEY FOR THIS PROJECT WAS NOT REQUESTED NOR IS ANY USEFUL PURPOSE SERVED BY SIMPLY POSTPONING OR DELAYING THIS ESSENTIAL PRECONSTRUCTION ACTIVITY.

UPON COMPLETION, THE PROJECT WILL PROVIDE $1.20 WORTH IN BENEFITS FOR EVERY DOLLAR IT COSTS TO IMPLEMENT THE BADLY NEEDED FLOOD CONTROL AND RECREATIONAL IMPROVEMENTS. IN ADDITION, IT WILL REMOVE 4,200 ACRES OF LAND AND 1,300 STRUCTURES FROM THE 100-YEAR FLOODPLAIN, IT WILL REDUCE AVERAGE ANNUAL FLOOD DAMAGE BY 93 PERCENT, AND IT WILL PROVIDE JUST UNDER $17 MILLION EACH YEAR IN VARIOUS BENEFITS TO THOSE LIVING ON THE CYPRESS CREEK WATERSHED. IN SHORT, THIS IS A VITAL PROJECT FOR MANY TEXAS RESIDENTS.

MR. CHAIRMAN, THE PEOPLE WHO LIVE ALONG THE CYPRESS CREEK WATERSHED HAVE MADE EVERY EFFORT AT THE LOCAL LEVEL TO PROTECT THEIR HOMES AND BUSINESSES FROM THE RAVAGES OF FLOODING. WE SHOULD NOW DO OUR PART BY HELPING THEM TO ACCOMPLISH WHAT THEY ARE UNABLE TO DO THEMSELVES.

WHILE WE ARE LIVING IN AN AGE OF SEVERE BUDGET CONSTRAINTS, I BELIEVE THE FEDERAL GOVERNMENT HAS AN INHERENT RESPONSIBILITY, WHICH THIS SUBCOMMITTEE HAS LONG RECOGNIZED, TO PROTECT THOSE CITIZENS WHO LIVE IN CONSTANT FEAR OF FLOODING. THERE ARE FEW THINGS IN THIS WORLD MORE TERRIFYING THAN THE PROSPECT OF WAKING UP IN THE MIDDLE OF THE NIGHT TO FIND THAT YOUR HOME IS FLOATING DOWN A RIVER OF FLOODING WATER -- WITH YOU STILL IN IT.

IT IS ALSO IMPORTANT TO NOTE THAT THE FEDERAL GOVERNMENT WILL END UP SAVING MILLIONS OF DOLLARS BY PROVIDING THIS FLOOD

PROTECTION RATHER THAN TO CONTINUE THE ENDLESS CYCLE OF REBUILDING OUR COMMUNITIES WITH FEDERAL FLOOD INSURANCE MONEY.

MR. CHAIRMAN, THE CYPRESS CREEK FLOOD CONTROL PROJECT IS SOUND. IT IS AN INVESTMENT IN OUR NATION'S FUTURE. IT WILL SAVE TAXPAYERS MONEY. IT WILL CREATE JOBS. AND, IT WILL PROVIDE FLOOD RELIEF TO THOUSANDS OF CITIZENS WHO MUST NOW SUFFER FROM THE PERSONAL AND ECONOMIC HARDSHIPS OF PERSISTENT FLOODING.

I ASK THE MEMBERS OF THIS SUBCOMMITTEE TO JOIN WITH ME IN HELPING TO ALLEVIATE THE CONCERNS OF MY LONG-SUFFERING CONSTITUENTS BY APPROPRIATING $500,000 IN FY '90 SO THAT THE WORK OF THIS VITAL FLOOD CONTROL PROJECT CAN COMMENCE. I CAN ASSURE YOU THAT THIS MONEY WILL BE WELL SPENT AND THAT THE CORPS OF ENGINEERS IS ANXIOUS TO BEGIN WORK.

THANK YOU FOR ALLOWING ME THIS OPPORTUNITY TO TESTIFY ON BEHALF OF THE CYPRESS CREEK FLOOD CONTROL PROJECT.

TEXAS WATER RESOURCE PROJECTS

STATEMENTS OF:

JOHN EVANS, MAYOR PRO TEM, CITY OF DALLAS
JIM ALEXANDER, COUNCILMAN, CITY OF DENTON
ALEX R. SCHELL III, VICE PRESIDENT, NORTH TEXAS MUNICIPAL WATER DISTRICT
HON. HARRY WHITE, MAYOR PRO TEM, CITY OF IRVING
BOB MATTOX, PRESIDENT, TRINITY RIVER AUTHORITY OF TEXAS
STEW GIBBONS, GREATER HOUSTON CHAMBER OF COMMERCE AND GREATER HOUSTON PARTNERSHIP
GREG PATTON, PRESIDENT, JOE POOL LAKE PLANNING COUNCIL
JOHN HEBERT, COMMISSIONER, PORT OF LIBERTY

Senator JOHNSTON. Mr. Leader, thank you very much for coming to the committee. We will treat your list of witnesses very well indeed.

Ladies and gentlemen, we have a long list of witnesses, with a very limited time span, as you all know. We would like to hear from you at great length, but unfortunately we do not have the time to do that. We will read fully all of your written statements, consider everything that is in them. But what we would like for you to do is to highlight your testimony within the time constraints that we have. I think all witnesses have been told about our time schedule.

So with that, I would like to introduce first the Trinity River Improvement Association. John Evans, the mayor pro tem of Dallas, is leading that group.

Mayor, we are pleased to have you here.

STATEMENT OF JOHN EVANS

Mr. EVANS. Thank you, Mr. Chairman. Incidentally, one of the best meals I ever had was corn on the cob and crawfish and potatoes in the shell boiled in cayenne pepper. That makes pretty good eating.

Mr. Chairman, we thank you for the opportunity of appearing before you. We have submitted all of this material to you. We will go through it as briefly as we can.

My name in John Evans of Dallas, TX. I am mayor pro tem of that city. I have been asked to be a spokesman for this group. We have a group here that is composed of 50 persons. It includes mayors, council members, officers of river authorities, water districts, port and water utility managers, chambers of commerce and other service organizations. As you know, as has been in the past, they have always paid their own way, with the Trinity Improvement Association serving as coordinator.

You have heard some testimony from our very able Congressman Brooks and his support of the 1990 Corps of Engineers budget proposal of about $3.18 billion. The revenues reverse this year. We are down a 4-percent decline from the past year's proposal. This reverses a 7-year upward trend in civil works programs.

One of the problems that we may get into in this is that we do not want to neglect those things that are already built and already operational. A summary of the projects which we specifically support appears at the beginning of our written testimony. The total request is about $64.5 million, of which $669,000 are five projects in the survey engineering and design. The projects, 3 construction projects totaling $50.4 million, and 11 operations and maintenance projects totaling about $13.5 million.

We also have one additional funding request. That is for Wallisville. The Congressman very ably put that it is a very important thing. We would like a reaffirmation of the congressional intent to complete this project.

We seek funds for continuing comprehensive flood control studies in the Dallas/Fort Worth metroplex along the upper Trinity River. A recent Corps of Engineers regional environmental impact statement warns of the dangers of catastrophic flooding if the floodplains are developed as is projected. Because the regional EIS did not identify the remedial flood control measures that are needed, completion of the flood control study now underway by the Corps is needed.

PREPARED STATEMENTS

Mr. Chairman, I wish to submit for the record a complete list of our delegation appearing here today and copies of their testimony, which you have in hand.

Senator JOHNSTON. Yes, that will all be in the record.

[The statements follow:]

STATEMENT OF JOHN EVANS

SUMMARY OF REQUESTS - FY 1990

On behalf of the Trinity River of Texas delegation, the Trinity Improvement Association recommends the support of Congress for the following projects of the Corps of Engineers in considering the Energy and Water Development appropriation bill for FY 1990.

FUNDING REQUESTS:

PROJECT	BUDGET REQUEST
SURVEYS	
Bardwell Lake, TX	$ 60,000
Dallas Floodway, TX	$ 60,000
Denison Dam - Lake Texoma, OK and TX	$ 124,000
Upper Trinity River Basin, TX	$ 280,000
PRECONSTRUCTION ENGINEERING AND DESIGN	
Five Mile Creek, Dallas, TX	$ 145,000
CONSTRUCTION	
Cooper Lake and Channels, TX	$31,000,000
Joe Pool Lake, TX	$ 351,000
Ray Roberts Lake, TX	$19,000,000
OPERATIONS & MAINTENANCE	
Bardwell Lake, TX	$ 838,000
Benbrook Lake, TX	$ 1,191,000
Denison Dam - Lake Texoma, OK and TX	$ 3,887,000
Grapevine Lake, TX	1,357,000
Joe Pool Lake, TX	$ 556,000
Lavon Lake, TX	$ 1,899,000
Lewisville Dam, TX	$ 1,909,000
Navarro Mills Lake, TX	$ 1,020,000
Ray Roberts Lake, TX	$ 551,000
Trinity River & Tributaries, TX	$ 20,000
Wallisville Lake, TX	$ 225,000

ADDITIONAL FUNDING REQUEST:

WALLISVILLE PROJECT

It is requested that funds be appropriated for Wallisville construction in the amount of the most recent Corps of Engineers capability.

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

MY NAME IS JOHN EVANS OF DALLAS, TEXAS, AND I AM MAYOR PRO-TEM OF THE CITY OF DALLAS. I HAVE BEEN ASKED TO SERVE AS SPOKESMAN FOR THIS DELEGATION WHICH REPRESENTS INTERESTS FROM THROUGHOUT THE TRINITY RIVER BASIN AND THE CITY OF HOUSTON, WHICH IS OUTSIDE THE BASIN BUT RECEIVES WATER FROM IT. NUMBERING 50 PERSONS, THE DELEGATES INCLUDE MAYORS AND COUNCIL MEMBERS, OFFICERS OF RIVER AUTHORITIES AND WATER DISTRICTS, PORT AND WATER UTILITY MANAGERS, CHAMBERS OF COMMERCE AND OTHER SERVICE ORGANIZATION OFFICIALS. I MIGHT ADD THAT ALL HAVE TRAVELED TO WASHINGTON AT THEIR OWN EXPENSE, WITH THE TRINITY

IMPROVEMENT ASSOCIATION SERVING AS COORDINATOR. WHILE THE GROUP IS DIVERSE GEOGRAPHICALLY, WE ARE UNITED IN PURPOSE.

YOU HAVE HEARD TESTIMONY FROM OUR CONGRESSIONAL REPRESENTATIVES CONCERNING SOME OF OUR NEEDS. WE WANT NOW TO PRESENT SPECIFIC COMMENTS AND RECOMMENDATIONS ON THE FY 1990 BUDGET PROPOSALS. WE GENERALLY SUPPORT THE FISCAL YEAR 1990 CORPS OF ENGINEERS BUDGET PROPOSAL OF $3.181 BILLION, NOTING, HOWEVER, THAT IT REPRESENTS A 4% DECLINE FROM THE PREVIOUS YEAR PROPOSAL. THIS REVERSES A SEVEN-YEAR UPWARD TREND IN CIVIL WORKS PROGRAMS, WHICH EXHIBITED THE ADMINISTRATION'S CONCERN THAT THE INFRASTRUCTURE FOR WATER RESOURCES NOT BE NEGLECTED. THREE QUARTERS OF THE REDUCTION THIS YEAR COMPARED TO LAST YEAR IS IN THE AREA OF FUNDING FOR OPERATIONS AND MAINTENANCE OF COMPLETED PROJECTS. MR. CHAIRMAN, WE ARE AWARE OF AND SHARE YOUR CONCERN THAT PROJECTS, ONCE BUILT, BE ADEQUATELY MAINTAINED.

A SUMMARY OF PROJECTS WHICH WE SPECIFICALLY SUPPORT APPEARS AT THE BEGINNING OF OUR WRITTEN TESTIMONY. IT ITEMIZES THE FY 1990 BUDGET REQUEST FOR $64,473,000 FOR 19 PROJECTS AFFECTING THE TRINITY BASIN AS LISTED FOR THE CORPS OF ENGINEERS. FIVE PROJECTS ARE IN THE SURVEY-ENGINEERING DESIGN PHASES TOTALING $669,000; THREE CONSTRUCTION PROJECTS TOTALING $50,351,000; AND 11 OPERATIONS AND MAINTENANCE PROJECTS TOTALING $13,453,000.

WE ALSO HAVE ONE ADDITIONAL FUNDING REQUEST. FOR WALLISVILLE, THE QUESTION STILL REMAINS WHETHER THIS IS TO CONTINUE TO BE A FEDERAL PROJECT OR WHETHER FUNDING IS TO BECOME TOTALLY A LOCAL RESPONSIBILITY. LEGAL BARS TO CONSTRUCTION HAVE BEEN OVERCOME SINCE WE LAST APPEARED BEFORE YOU. NOW, THE ARMY HAS APPARENTLY WITHDRAWN ITS SUPPORT. A REAFFIRMATION OF CONGRESSIONAL INTENT TO COMPLETE THIS PROJECT IS SOUGHT.

WE SEEK FUNDS FOR CONTINUING COMPREHENSIVE FLOOD CONTROL STUDIES IN THE DALLAS/FORT WORTH METROPLEX ALONG THE UPPER TRINITY RIVER AND TRIBUTARIES. A RECENT CORPS OF ENGINEERS REGIONAL ENVIRONMENTAL IMPACT STATEMENT WARNS OF THE DANGERS OF CATASTROPHIC FLOODING IF THE FLOODPLAINS ARE DEVELOPED AS IS PROJECTED. BECAUSE THE REGIONAL EIS DID NOT IDENTIFY THE REMEDIAL FLOOD CONTROL MEASURES THAT ARE NEEDED, COMPLETION OF THE FLOOD CONTROL STUDY, NOW UNDERWAY BY THE CORPS, IS NEEDED.

Mr. Chairman, I wish to submit for the record a complete list of our delegation appearing here today and copies of the testimony to be given by our group.

With these remarks, I would like to call on a few members of the delegation who will speak briefly on projects of specific concern to their areas.

The first speaker will be The Honorable Jim Alexander, Councilman, City of Denton.

The next statement will be by Mr. Alex Schell, III, Vice President, North Texas Municipal Water District.

The next speaker will be The Honorable Harry White, Mayor Pro-Tem, City of Irving.

Next will be Mr. Bob Mattox, President, Trinity River Authority of Texas.

The next speaker is Mr. Stew Gibbons, representing the Greater Houston Chamber of Commerce and the Greater Houston Partnership.

The next statement will be by Mr. Greg Patton, President, Joe Pool Lake Planning Council.

The last statement will be by Mr. John Hebert, Commissioner, Port of Liberty.

Mr. Chairman, on behalf of the whole delegation, please accept our appreciation for the excellent job you and your committee have done, in these difficult times, in sustaining sound water resources development programs that have proved their environmental and economic worth. Thank you for allowing us to appear before this committee. As we stated last year, we stand ready to bear our part of the burden. We ask only that the return on investments to the nation's economy and the soundness of federal participation in Trinity River Basin water resources development be taken into consideration in arriving at your decisions.

As always, it has been a pleasure to appear before you.

STATEMENT OF JIM ALEXANDER, DENTON, TX

My name is Jim Alexander and I am a member of the Council for the City of Denton. Let me express the appreciation of the city councils of Denton and Dallas for your committee's continued support for the Corps of Engineers efforts on the Ray Roberts Lake project. I might add that former Congressman Ray Roberts is present today as a member of this delegation.

My testimony today is presented on a two-fold basis. First, on behalf of the cities of Denton and Dallas, I request that the administration's FY 1990 budget request for the Ray Roberts Lake project be accepted and supported by this committee. The cities are the co-sponsors of this project and have contracted with the Corps of Engineers for the design and construction of this project in order to obtain a water supply of 76 million gallons per day. This project is necessary to provide a source of water supply, recreation and flood protection for existing as well as future citizens.

Since we last appeared before this committee in April, 1988, the Ray Roberts Lake project has been released to the cities for water supply purposes. In conjunction with this phase of the project, the cities have made the first capital payment to the federal government in December of 1988.

Funding requested includes $19 million for continued project construction. With your approval of this funding, the project can remain on schedule and construction of road and railroad relocations, design and construction of recreational facilities and land acquisition can continue. Any cut-backs could mean a delay in the timely completion of this project which could hamper us greatly in meeting the water and recreational needs of our region.

I would also like to express the need for continued studies as a follow-up to the regional environmental impact statement which was prepared by the Corps of Engineers for the Dallas/Fort Worth metroplex two years ago. It warned of the potential danger of

CATASTROPHIC FLOODING WHICH COULD TAKE PLACE IN OUR AREA RESULTING FROM A STANDARD PROJECT FLOOD OCCURING ON THE UPPER TRINITY RIVER AND TRIBUTARIES. THERE ARE REQUESTS FOR $280,000 AND $60,000 IN THE FY 1990 BUDGET ESTIMATE TO CONTINUE THIS PROJECT UNDER THE CAPTIONS DALLAS FLOODWAY AND UPPER TRINITY RIVER BASIN.

I URGE YOUR CAREFUL CONSIDERATION OF THE ADMINISTRATION'S BUDGET REQUEST FOR FULL FUNDING OF THE RAY ROBERTS LAKE PROJECT AND THE FLOODWAY RE-EVALUATIONS. WE LOOK FORWARD TO YOUR CONTINUED COOPERATION IN THIS IMPORTANT MATTER.

THANK YOU VERY MUCH.

STATEMENT OF HARRY WHITE, JR., MAYOR PRO TEM, IRVING, TX

MY NAME IS HARRY WHITE, JR., AND I AM MAYOR PRO TEM OF THE CITY OF IRVING, TEXAS. LET ME EXPRESS THE APPRECIATION OF THE MAYOR AND COUNCIL OF IRVING FOR THE COMMITTEE'S CONTINUED SUPPORT OF THE COOPER LAKE PROJECT. THE BUDGET REQUEST OF $31,000,000 WILL ALLOW THE CORPS OF ENGINEERS TO PROCEED IN A TIMELY MANNER WITH THE CONSTRUCTION OF THIS PROJECT. AS ONE OF THE LOCAL SPONSORS OF THIS PROJECT, WE ARE ANXIOUS TO UTILIZE WATER FROM COOPER LAKE AT THE EARLIEST TIME IT BECOMES AVAILABLE. TO THIS END, WE ARE PARTICIPATING IN A CONTRACT FOR THE FIRST PHASE OF THE INTAKE STRUCTURE PUMP STATION.

WE APPRECIATE THE CONTINUED SUPPORT OF THE CONGRESS FOR THE COOPER PROJECT. WE LOOK FORWARD TO COMMENCEMENT OF IMPOUNDMENT AT COOPER LAKE BEGINNING IN THE FALL OF 1991.

ANOTHER PROJECT THAT IS VITAL TO THE CITIZENS IN THE DALLAS/FT. WORTH AREA IS THE TRINTY RIVER IMPROVEMENTS. LAST YEAR, WE REQUESTED AND RECEIVED HELP FROM THIS COMMITTEE ON ANOTHER PROJECT INVOLVING THE PROTECTION OF NINE CITIES IN THE METROPLEX FROM THE HAZARDS OF A STANDARD PROJECT FLOOD ON THE UPPER TRINITY RIVER AND TRIBUTARIES. IN THE BUDGET YOU ARE NOW CONSIDERING ARE TWO ITEMS TO COMPLETE PRELIMINARY STUDIES BY THE CORPS OF ENGINEERS TO RECOMMEND

ACTIONS NEEDED TO PREVENT CATASTROPHIC FLOODING. THESE ARE $280,000 FOR THE UPPER TRINITY BASIN AND $60,000 FOR THE DALLAS FLOODWAY. WE ARE ADVISED THAT THESE AMOUNTS WILL PERMIT THE CORPS TO COMPLETE ITS PRELIMINARY WORK, PREPARATORY TO ENTERING INTO THE NEXT PHASE.

WE URGE YOUR FAVORABLE CONSIDERATION OF THE PROJECTS I HAVE JUST ENUMERATED. WE ARE GRATEFUL FOR THE SUPPORT YOU HAVE GIVEN US IN THE PAST. WE FIRMLY BELIEVE THAT THE FEDERAL GOVERNMENT'S CONTINUED PARTICIPATION IN THESE WATER RESOURCES PROJECTS CONSTITUTE WISE AND PRUDENT USE OF THE NATION'S CAPABILITIES.

THANK YOU FOR YOUR KIND ATTENTION.

STATEMENT OF BOB MATTOX, BOARD OF DIRECTORS, TRINITY RIVER AUTHORITY OF TEXAS

I AM BOB MATTOX OF CROCKETT, TEXAS. I AM A MEMBER OF THE BOARD OF DIRECTORS OF THE TRINTY RIVER AUTHORITY OF TEXAS REPRESENTING HOUSTON COUNTY AND CURRENTLY SERVE AS PRESIDENT OF THE BOARD OF DIRECTORS.

TRA SUPPORTS THE FY 1990 FUNDING CAPABILITIES FOR THE U. S. ARMY CORPS OF ENGINEERS PROJECTS FOR WHICH WE SERVE AS LOCAL SPONSORS.

JOE POOL LAKE

JOE POOL LAKE IS A CORPS OF ENGINEERS FLOOD CONTROL, WATER SUPPLY AND RECREATION PROJECT LOCATED IN SOUTHWEST DALLAS AND SOUTHEAST TARRANT COUNTIES. THIS MOST IMPORTANT LAKE HAS BEEN FILLING WITH WATER SINCE JANUARY 1986 AND IS ALMOST READY FOR PUBLIC RECREATIONAL USE.

THE PRESIDENT'S BUDGET CONTAINS $351,000 FOR PARKS AND RECREATION FACILITIES CONSTRUCTION. THE PUBLIC'S DEMAND FOR RECREATIONAL USE AT JOE POOL LAKE IS EXTRAORDINARY AND, FOR THIS REASON, TRA STRONGLY ENDORSES THIS APPROPRIATION.

Wallisville Saltwater Barrier

Wallisville will primarily function as a saltwater barrier but will also provide water supply and recreation benefits at the mouth of the Trinity River in Chambers and Liberty counties.

The long delayed Wallisville project was freed from a 14 year-old environmental injunction by the 5th Circuit Court of Appeals in May 1987. The Corps of Engineers expressed a capability of $4 million, but was later ordered by the Administration to withdraw its expressed capability. Congress did apprpriate $500,000 for construction in FY 1988 and FY 1989, but OMB has refused to release these funds to the Corps. The Corps could resume construction within 90 days.

This project screams out for direction, and we request that this Committee provide such direction. A $4 million appropriation with associated language directed to OMB ordering them to release these funds for construction would be very helpful.

The local sponsors of the Wallisville project (TRA, City of Houston and Chambers-Liberty Counties Navigation District) believe the Federal Government has a duty to honor the commitments made when the local assurance contracts were completed. Nothing has happened in the intervening years to alter the validity of this agreement, and we request your support in conveying this fact to OMB.

Operations and Maintenance

The Corps of Engineers has requested, and TRA supports, appropriations for operations and maintenance funds in the following amounts for the projects we support as local sponsor.

PROJECTS	1990 AMOUNT
Bardwell Lake	$ 838,000
Joe Pool Lake	$ 556,000
Navarro Mills Lake	$ 1,020,000
Wallisville Salt Water Barrier	$ 225,000
Trinity River & Tributaries	$ 20,000

Conclusion

Thank you for your continuing support for the federal water projects within our political subdivision. They remain some of the best long-term investments ever made by the federal government, and we sincerely appreciate this committee's visionary support in bringing them to fruition.

STATEMENT OF JOHN HERBERT, COMMISSIONER, PORT OF LIBERTY, TX

I am John Hebert of Liberty, Texas. I am a commissioner for the Port of Liberty. Our Port Commission is constantly striving to use the Port of Liberty and the Trinity River for barge traffic. We know what an impact this will have on the depressed economy of our area.

We are pleased to report that the Trinty River is presently being used to transport a minimum of 350,000 tons of material for the widening and rebuilding of Interstate Highway 10. Barge transportation on the Trinity River is contributing to reducing the cost of maintenance of this interstate highway project.

Thanks to your help, when funds are released the Corps of Engineers will request bids for maintenance dredging on the Trinity River. When the dredging is complete, we will be able to assist the Corps with future maintenance at the entrance to the Port of Liberty. This is possible because we have recently been issued a permit for keeping the entrance to the Port of Liberty free of silt.

We again stress the need for the completion of the Wallisville Reservoir. We urgently request Congress to direct the Corps of Engineers to proceed with whatever is necessary to reactivate this project.

Thank you for this opportunity to meet with you today concerning the needs of the Lower Trinity River.

STATEMENT OF ALEX R. SCHELL III, VICE PRESIDENT, NORTH TEXAS MUNICIPAL WATER DISTRICT

My name is Alex R. Schell, III. I am the Vice President of the North Texas Municipal Water District and have been a Member of the Board of Directors of the North Texas Municipal Water District since 1964. I represent the citizens of the service area and have been appointed to the Board by the City Council of the City of Plano.

The Trinity Improvement Association supports the Cooper Lake and Channels Project, Texas, with members and local sponsors of the project including the North Texas Municipal Water District, City of Irving, and the Sulphur River Municipal Water District. The current request of thirty-one million dollars ($31,000,000) should allow the Corps of Engineers to continue construction of Cooper Reservoir in a timely manner. Deliberate impoundment is scheduled for September of 1991. The local sponsors will, during this month, award a construction contract for the first phase of the Cooper Lake Intake Structure Pump Station. The local sponsors plan to utilize Cooper Lake water as soon as it becomes available. The initial contract, estimated to cost <u>eight million dollars,</u> is the first step in a sixty million dollar locally funded effort to utilize Cooper water.

For many years you have supported Cooper Lake and Channels. During a period of fourteen years, beginning in 1971, the NTMWD spokesman was limited to the optimistic statement, "We will be out of court pretty soon." The project is now out of court, the charges levied by project critics of the project being not needed were simply incorrect. The local sponsors are moving forward to construct the facilities that will allow those local agencies to begin using Cooper Lake and Channels for potable water supply as soon as nature and the appropriations being made by this committee allow the project to become operational.

Thank you for providing this time to testify before the committee. Your continued support of the Cooper Lake and Channels Project and other needed public projects is appreciated.

STATEMENT OF STEW GIBBONS, ON BEHALF OF THE GREATER HOUSTON CHAMBER OF COMMERCE AND GREATER HOUSTON PARTNERSHIP

I AM STEW GIBBONS AND I WILL BE SPEAKING TODAY ON BEHALF OF THE GREATER HOUSTON CHAMBER OF COMMERCE AND THE GREATER HOUSTON PARTNERSHIP. BOTH THE GREATER HOUSTON CHAMBER AND THE GREATER HOUSTON PARTNERSHIP STRONGLY SUPPORT THE LONG DELAYED WALLISVILLE SALTWATER BARRIER AT THE MOUTH OF THE TRINITY RIVER AND I HAVE BEEN ASKED TO BRIEFLY OUTLINE THE REASONS WE OFFER THIS SUPPORT.

THE GREATER HOUSTON AREA HAS A COMPELLING NEED FOR ADDITIONAL SUPPLIES OF SURFACE WATER AND AN EQUALLY COMPELLING NEED TO RELY LESS ON GROUNDWATER. THE DESTRUCTIVE PHENOMENA OF SUBSIDENCE OR THE LOWERING OF SURFACE ELEVATIONS THROUGHOUT THE GREATER HOUSTON AREA IS THE ENVIRONMENTAL LEGACY OF THE LARGE VOLUME CONSUMPTION OF GROUNDWATER. OUR AWARENESS OF THIS MOST SERIOUS ENVIRONMENTAL PROBLEM, COUPLED WITH OUR CONTINUING HOPES FOR FURTHER ECONOMIC RECOVERY AND FUTURE GROWTH, MAKE THE ACQUISITION OF AFFORDABLE SURFACE WATER SUPPIES ONE OF OUR HIGHFST PRIORITIES.

IF WE DO NOT MAKE EVERY EFFORT POSSIBLE TO EXPLOIT SURFACE WATER SUPPLY PROJECTS THAT HAVE ALREADY BEEN BUILT AND PAID FOR, WE WILL BE MAKING AN EXTREMELY SERIOUS ECONOMIC AND ENVIRONMENTAL MISTAKE. UNTIL THE WALLISVILLE SALTWATER BARRIER IS COMPLETE, WE WILL CONTINUE TO BE REQUIRED TO MINDLESSLY FLUSH SALTWATER OUT OF THE LOWER TRINITY RIVER WITH MILLIONS OF GALLONS OF FRESH WATER RELEASED FROM LAKE LIVINGSTON UPSTREAM. WITH WALLISVILLE IN PLACE, WE WILL BE ABLE TO USE THOSE MILLIONS OF GALLONS FOR MUNICIPAL AND INDUSTRIAL PURPOSES WITH A VERY MINIMAL ENVIRONMENTAL IMPACT.

AFTER 14 YEARS OF LITIGATION AND RESTUDY THAT DELAYED THIS FEDERAL WATER PROJECT, THE LOCAL SPONSORS FOR WALLISVILLE WON AN OVERWHELMING LEGAL VICTORY IN 1987, ONLY TO BE CONFRONTED WITH AN ADMINISTRATION THAT WANTED NEW COST SHARING AGREEMENTS WHEREBY THE SPONSORS BASICALLY WOULD PAY ALL THE PROJECT'S COSTS. THE SPONSORS WERE IN NO WAY RESPONSIBLE FOR THE YEARS OF DELAY AND ABSOLUTELY

NOTHING HAS OCCURRED TO INVALIDATE THE ORIGINAL PROJECT CONTRACTS AND THE COST SHARING PROVISIONS CONTAINED THEREIN.

THE GREATER HOUSTON CHAMBER OF COMMERCE AND THE GREATER HOUSTON PARTNERSHIP REQUEST THIS COMMITTEE'S ASSISTANCE IN THE FORM OF A $4 MILLION APPROPRIATION ALONG WITH SOME VERY SPECIFIC LANGUAGE DIRECTING OMB TO RELEASE THESE FUNDS FOR THE PURPOSE OF RESUMING CONSTRUCTION. THE GREATER HOUSTON AREA HAS A SERIOUS NEED FOR WALLISVILLE AND THE WATER IT WILL SAVE FROM BEING RELEASED FOR SALINITY CONTROL IN THE LOWER TRINTY RIVER.

THANK YOU FOR YOUR ATTENTION AND WE AGAIN MOST STRONGLY REQUEST YOUR CONTINUING SUPPORT FOR THE WALLISVILLE SALTWATER BARRIER.

STATEMENT OF GREG PATTON, PRESIDENT, JOE POOL LAKE PLANNING COUNCIL

I AM GREG PATTON OF CEDAR HILL, TEXAS. I AM PRESIDENT OF THE JOE POOL LAKE PLANNING COUNCIL AND WITH ANY LUCK AT ALL, THIS WILL BE THE PLANNING COUNCIL'S FINAL APPEARANCE BEFORE THIS COMMITTEE. I SHOULD POINT OUT THAT THE PLANNING COUNCIL, WITH THE HELP OF THIS COMMITTEE AND YOUR PREDECESSORS, HAS LITERALLY WORKED ITSELF OUT OF A JOB.

JOE POOL LAKE, WHICH IS PRINCIPALLY LOCATED IN SOUTHWEST DALLAS COUNTY, IS APPROACHING COMPLETION. FOR THE NEXT FISCAL YEAR, THE FORT WORTH DISTRICT OF THE U. S. ARMY CORPS OF ENGINEERS IS REQUESTING A TOTAL OF $351,000 FOR CONSTRUCTION AND $556,000 FOR OPERATIONS AND MAINTENANCE. WE STRONGLY REQUEST YOUR SUPPORT FOR THESE APPROPRIATIONS.

YOU HAVE HELPED US MAKE A DREAM COME TRUE AND IT IS BETTER THAN WE EVER ANTICIPATED. THE BENEFITS THAT THIS PROJECT PROVIDES IN THE FORM OF FLOOD CONTROL, WATER SUPPLY AND RECREATION HAS HELPED ENERGIZE THE ECONOMY OF OUR AREA AND OUR HOPES FOR THE FUTURE.

THE JOE POOL LAKE PLANNING COUNCIL HAS EXISTED SINCE BEFORE THE PROJECT WAS ORIGINALLY AUTHORIZED FOR CONSTRUCTION BY CONGRESS IN 1965. WE HAVE SEEN THIS PROJECT PLANNED, MOVED UPSTREAM, RESTUDIED, LITIGATED AND RENAMED, AND THROUGH IT ALL THIS COMMITTEE HAS OFFERED ITS SUPPORT.

I THINK THAT AFTER ALL THESE YEARS, THE BEST AND MOST APPROPRIATE THING WE CAN OFFER IS OUR MOST SINCERE THANKS AND ASSURANCE THAT YOU HAVE DONE AND GOOD AND GREAT THING BY FUNDING JOE POOL LAKE.

THANK YOU.

TRINITY IMPROVEMENT ASSOCIATION
1989 CONGRESSIONAL HEARINGS
DELEGATE NAMES AND ADDRESSES

UPPER TRINITY

Trinity Improvement Association:

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Southern Region Manager
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President
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Vice President, Board of Directors
North Texas Municipal Water District
P. O. Drawer C
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Mr. Jimmy Whitaker
President, Board of Directors
North Texas Municipal Water District
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Mr. Carl Riehn
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Environmental Manager
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Mr. Wayne Owen
Administrative Coordinator
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Mayor
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The Honorable T. W. Cannady
Councilman
City of Cedar Hill
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The Honorable Mike Wright
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The Honorable Larry Wright
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Mr. Greg Vick
City Manager
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Mayor Pro Tem
City of Dallas
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Mr. Dennis Allen
Director of Water Utilities
City of Dallas
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Councilman
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Denton, TX 76201

Mr. Bob Nelson
Director of Utilities
City of Denton
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The Honorable Ray Roberts
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The Honorable Harry White
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Vice President, TU Services
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Consultant to Best Southwest
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Ms. Sally Rice
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MIDDLE TRINITY:

County of Polk:

The Honorable Bobby Smith
Commissioner
County of Polk
Polk County Courthouse
Livingston, TX 77351

The Honorable Paul Harrell
Commissioner
County of Polk
Polk County Courthouse
Livingston, TX 77351

The Honorable James J. "Buddy" Purvis
Commissioner
County of Polk
Polk County Courthouse
Livingston, TX 77351

LOWER TRINITY:

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Mr. Stew Gibbons
Greater Houston Chamber of Commerce/
Greater Houston Partnership
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Port of Liberty:

Mr. Ernie Zieschang
President
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Mr. & Mrs. Art Barkis
Vice President
Port of Liberty
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Mr. John Hebert
Secretary-Treasurer
Port of Liberty
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Mr. Jeff Winter
Port Director
Port of Liberty
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Liberty, TX 77575

Chambers-Liberty Counties
Navigation District:

Mr. Gordon Speer
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Anahuac, TX 77514

STATEMENT OF JIM ALEXANDER

Mr. EVANS. With these remarks, I would like to call on a few members of the delegation who will speak briefly on projects that are of specific concern. The first speaker will be the Hon. Jim Alexander, councilman, city of Denton.

Mr. ALEXANDER. Mr. Chairman and members of the committee, my name is Jim Alexander and I am a member of the council for the city of Denton. Let me express the appreciation of the city councils of Denton and Dallas for your committee's continued support for the Corps of Engineers' efforts on the Ray Roberts Lake project. I might add that former Congressman Ray Roberts is a citizen of Denton. We are delighted to have him here in our audience as part of our delegation this afternoon.

Senator JOHNSTON. I understand Ray Roberts is in the audience. Where is Ray?

Stand up, Ray. [Applause.]

We are always pleased to have Ray Roberts here.

RAY ROBERTS LAKE, TX

Mr. ALEXANDER. My testimony today is presented on a twofold basis. First, on behalf of the cities of Denton and Dallas, I request that the administration's fiscal year 1990 budget request for the Ray Roberts Lake project be accepted and supported by this committee. The cities are the cosponsors of this project, and we have contracted with the Corps of Engineers for the design and construction of this project in order to obtain a water supply of 76 million gallons per day. This project is necessary to provide a source of water supply, recreation, and flood protection for existing as well as future citizens.

Since we last appeared before this committee in April 1988, the Ray Roberts Lake project has been released to the cities for water supply purposes. In conjunction with this phase of the project, the cities have made the first capital payment to the Federal Government in December 1988.

Funding requested includes $19 million for continued project construction. With your approval of this funding, the project can remain on schedule, and construction of road and railroad relocations, design and construction of recreational facilities and land acquisition can continue. Any cutbacks could mean a delay in the timely completion of this project, which could hamper us greatly in meeting the water and recreational needs of our citizens.

I would also like to express the need for continued studies as a followup to the regional environmental impact statement which was prepared by the Corps of Engineers for the Dallas/Fort Worth metroplex 2 years ago. It warned of the potential danger of catastrophic flooding which could take place in our area resulting from a standard project flood occurring on the Upper Trinity River and tributaries. There are requests for $280,000 and $60,000 in the fiscal year 1990 budget estimate to continue this project under the captions Dallas floodway and Upper Trinity River basin.

I urge your careful consideration of the administration's budget request for full funding of the Ray Roberts Lake project and the

floodway reevaluations. We look forward to your continued cooperation in this important matter.

We thank you very much.

Senator JOHNSTON. Thank you.

Mr. EVANS. Next, Mr. Alex Schell III, vice president, North Texas Municipal Water District, and the following speakers will be abbreviating their statements.

COOPER LAKE AND CHANNELS, TEXAS

STATEMENT OF ALEX R. SCHELL III

Mr. SCHELL. Mr. Chairman and committee members, my name is Alex Schell. I am the vice chairman of the North Texas Municipal Water District. I have been a member of the board of directors of this district since 1964.

The Trinity Improvement Association supports the Cooper Lake and channels project in northeast Texas with members and local sponsors of the project, including the North Texas Municipal Water District, the city of Irving, and the Sulphur River Municipal Water District. The current request of $31 million should allow the Corps to continue construction of Cooper Reservoir in a timely manner. The local sponsors will, during this month of April 1989, award a construction contract for the first phase of the Cooper Lake intake structure pump station. The initial contract, estimated to cost $8 million, is the first step in a $60 million locally funded effort to utilize Cooper water.

For many years, you have supported Cooper Lake and channels. We want to take this opportunity to thank you for that support and the time to testify before this committee. Your continued support of Cooper Lake and channels project and other needed public projects is greatly appreciated.

Senator JOHNSTON. The sum of $31 million is in the budget for that now?

Mr. SCHELL. What we are requesting, sir, is $31 million.

Mr. EVANS. Thank you. The next speaker will be Harry White, mayor pro tem, city of Irving.

STATEMENT OF HARRY WHITE

Mr. WHITE. Thank you, Mr. Chairman.

My name is Harry White. I am mayor pro tem of the city of Irving, TX. Let me express the appreciation of the mayor and the council of Irving for the committee's continued support of the Cooper Lake project. The budget request of $31 million will allow the Corps of Engineers to proceed in a timely manner with the construction of this project. As one of the local sponsors of this project, we are anxious to utilize water from Cooper Lake at the earliest time that it becomes available. To this end, we are participating in a contract for the first phase of the intake pump station.

We appreciate the continued support of the Congress for the Cooper project. We look forward to the commencement of impoundment at Cooper Lake beginning in 1991.

Another project that is vital to the citizens in the Dallas/Fort Worth area is the Trinity River improvement. Last year we re-

quested and received help from this committee on another project involving the protection of the nine cities in the metroplex from the hazards of a standard project flood on the upper Trinity River and tributaries. In the budget you are now considering are two items to complete preliminary studies by the Corps of Engineers to recommend actions needed to prevent catastrophic flooding. These are the $280,000 for the upper Trinity River basin and the $60,000 for the Dallas floodway. We are advised that these amounts will permit the Corps to complete its preliminary work, preparatory to entering into the next phase.

We urge your favorable consideration of the projects I have just enumerated. We are grateful for the support you have given us in the past. We firmly believe that the Federal Government's continued participation in these water resources projects constitutes wise and prudent use of the Nation's capabilities.

Thank you for your kind attention.

Mr. EVANS. Thank you. The next speaker will be Mr. Bob Mattox, president, Trinity River Authority of Texas.

STATEMENT OF BOB MATTOX

Mr. MATTOX. Mr. Chairman, the Trinity River Authority of Texas represents 17 counties from the metroplex of Dallas/Fort Worth to the Gulf of Mexico.

We are interested in all the projects that have been mentioned today. For me to try to elaborate on the presentation made by these gentlemen, and especially Congressman Brooks, would be a waste of your valuable time. So with that, I will say thank you so much for the opportunity.

Mr. EVANS. Mr. Chairman, the next speaker, Mr. Stew Gibbons, is not able to be here.

He represents the Greater Houston Chamber of Commerce and the Greater Houston Partnership.

The next statement will be by Mr. Greg Patton, president of Joe Pool Lake Planning Council.

JOE POOL LAKE, TX

STATEMENT OF GREG PATTON

Mr. PATTON. I will make my remarks brief. They have already been filed for your record.

The Joe Pool Lake project is basically complete now. This group has been appearing in front of you for the past 20 years. We want to, at this time, tell you thank you. At this time I would like for all of the people who are related with the Joe Pool project to please stand. With this we will say thank you. We intend for this to be perhaps our last appearance in front of you. We invite you to come fishing, water skiing, enjoy our area. With that, I do say thank you very much.

Mr. EVANS. Thank you, Greg. Mr. Chairman, the last statement will be by Mr. John Hebert, a name that you can relate to, Commissioner of Port of Liberty.

STATEMENT OF JOHN HEBERT

Mr. HEBERT. Mr. Chairman and members of the committee, I am John Hebert of Liberty, TX. I am a commissioner for the Port of Liberty. Our port commission is constantly striving to use the Port of Liberty and the Trinity River for barge traffic. We know what an impact this will have on the depressed economy of our area.

We are pleased to report that the Trinity River is presently being used to transport a minimum of 350,000 tons of material for the widening and rebuilding of Interstate Highway 10. Barge transportation on the Trinity River is contributing to reducing the cost of maintenance of this interstate highway project.

Thanks to your help, when funds are released, the Corps of Engineers will request bids for maintenance dredging on the Trinity River. When the dredging is complete, we will be able to assist the Corps with future maintenance at the entrance to the Port of Liberty. This is possible because we have recently been issued a permit for keeping the entrance to the Port of Liberty free of silt.

We again stress the need for the completion of the Wallisville Reservoir. We urgently request Congress to direct the Corps of Engineers to proceed with whatever is necessary to reactivate this project.

Thank you for this opportunity to meet with you today concerning the needs of the lower Trinity River.

Mr. EVANS. Thank you, John. Mr. Chairman, on behalf of the whole delegation, please accept our appreciation for the excellent job you and your committee have done in these difficult times in sustaining sound water resources development programs that have proved their environmental and economic worth. Thank you for allowing us to appear before you, before this committee today.

As we stated last year, we stand ready to bear our part of the burden. We only ask that the return on investments on the Nation's economy and the soundness of the Federal participation in the Trinity River basin water resources development be taken into consideration in arriving at your decision.

As always, it has been a pleasure to appear before you. Thank you very much, Senator Johnston.

Senator JOHNSTON. Thank you very much, Mayor Evans. As I told Chairman Brooks, we are going to try to continue to take care of you. If we were not otherwise so inclined, the fact that you had such good testimony, to the point and under time, would give you a little extra consideration by the committee. So thank you very much.

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Before calling the next witness, our friends, Dale Miller and Harry Plomarity, have a statement for the record. That will be included along with a statement from the Harris County Flood Control District in Texas.

[The statements follow:]

STATEMENT OF HARRY G. PLOMARITY, EXECUTIVE DIRECTOR, PORT OF CORPUS CHRISTI, TX

For the past several years we have appeared before you, seeking funds to continue construction on the deepening of the Corpus Christi Ship Channel. We do not, however, do so on this occasion for the gratifying reason that final dredging is in progress, with completion expected within the next few months.

This important project has been underway for eighteen years, and we cannot let its culmination pass without expressing our warm appreciation for your cooperation and for the many courtesies extended to us on every occasion by you and your diligent staffs. It is our belief that this project epitomizes the strength and durability of the system of shared responsibilities and efforts in the creation of our nation's waterways.

The Port of Corpus Christi is a busy and thriving enterprise, and there is no doubt that its future growth will require further improvements in facilities and dimensions as time goes on. But as of now we pause to salute the concerted efforts that have produced this major accomplishment -- and we look forward to our mutual endeavors in meeting new challenges, and achieving new goals, in the the years to come.

STATEMENT OF JAMES B. GREEN, P.E., DIRECTOR, HARRIS COUNTY FLOOD CONTROL DISTRICT, HOUSTON, TX

Mr. Chairman and members of the Energy and Water Development subcommittee, I want to thank you for allowing me to come before you today to testify in support of FY '90 funding for the United States Army Corps of Engineers' Cypress Creek Flood Control Project.

As Director of the Harris County Flood Control District, Houston, Texas, I respectfully appeal to you on behalf of Harris County Judge Jon Lindsay, and the Harris County Commissioners Court and the residents of the Cypress Creek Watershed to lend your support to the Cypress Creek Project by approving an appropriation of $500,000 in FY '90 so that the Corps of Engineers can proceed with pre-construction, engineering and design work.

I have come to this Committee directly from the National Hurricane Conference, which is currently underway in Miami where the experts in this field have expounded on the catastrophic results to human life and property that are incurred when a hurricane strikes. Living near the Gulf Coast, we in Harris County have felt the full brunt of such storms. It is even more reason that we must continue to take every action possible to step up our flood control improvements.

In 1935, Harris County experienced a rainstorm of such magnitude that as it swept across the County, flood waters inundated two-thirds of the County and claimed 15 lives. Destruction was widespread; it so silted the Houston Ship Channel that it took eight months to clear before conditions were once again safe for navigation. As a result of this 1935 catastrophic event, the U. S. Army Corps of Engineers constructed the Addicks and Barker Flood Control Reservoirs in the western portion of Harris County. A system that today still provides protection to our area. The Addicks/Barker Reservoirs were the beginning of many projects the Corps of Engineers has constructed in Harris County. The U. S. Army Corps of Engineers along with Harris County as local sponsor has also implemented major rectification projects on Brays Bayou, White Oak Bayou, Vince Bayou and Little Vince Bayou. These projects have been responsible for eliminating flood hazards that would, over the years, have caused millions of dollars in damages. In addition, the Corps of Engineers has active projects and are nearing construction of improvements to Sims Bayou and Clear Creek. The residents of Harris County owe a great debt of appreciation to your subcommittee for its past and continuing support and funds for the Corps' projects that have greatly reduced the threat of flooding in Harris County.

The Cypress Creek Watershed is located northwest of the City of Houston in northern Harris and eastern Waller Counties, Texas. Over the past decade the lower portion of the Cypress Creek Watershed, which is contained entirely in Harris County, has experienced a dramatic growth rate. Approximately 200,000 people reside in this 319-square-mile drainage area. The lower portion of the Cypress Creek Watershed experienced a phenomenal rate of growth during the period from 1970 - 1980. The population factor increased approximately 492 percent during that period. This area developed primarily as an upper-middle income, single-family, residential area. Commercial and retail establishments have developed along major thoroughfare corridors and an industrial sector is developing along U. S. Highway 290.

A flood in May, 1968 inundated 35 homes along Cypress Creek, with the water level reaching as high as three feet above floor elevation. In a 1973 flood event, residents of two Cypress Creek subdivisions, Norchester and Inverness Forest, experienced extensive structural damages from the flood

waters. In January, 1979, a rainfall event in the Cypress Creek Watershed flooded more than 300 homes in the subdivisions of Windwood, Grantwood, Lake Cypress Estates, Norchester and Wimbledon. Damaging floods occurred again in April and September of 1979.

Repeated thunderstorms on October 25, 1984, caused the most severe flooding in the Cypress Creek Watershed since 1960. Several hundred homes along Cypress Creek were flooded and over 500 residents were forced to evacuate the area. The most recent flooding on Cypress Creek occurred on November 25, 1987. Heavy rain in the northern part of Harris County flooded the drainage areas of Little Cypress Creek, creating downstream flooding on Cypress Creek at Inverness Forest Subdivision. More than 150 residents were evacuated and at least 20 homes had water in them.

Harris County has one of the most sophisticated flood plain management programs in the Nation to ensure that existing problems are not worsened and new problems are not created. However, the problems on Cypress Creek occur in areas developed prior to the participation in the National Flood Insurance Program and the corresponding level of understanding of the problems and solutions we have today.

The citizens of Harris County are very interested in the proposed Federal project for Cypress Creek because of the seriousness of the existing problem and the potential for real benefits. The real benefits are realized with the proposed Federal project when over 90 percent of the flood damage potential can be eliminated by removing 1,300 homes and businesses from the flood plain.

A single 100-year flood alone would produce damages approaching the cost of the proposed project. The benefits are even more attractive when considering the benefits and costs on an annualized basis: producing the net annual benefits of $3.0 million and returning $1.20 in benefits for every $1.00 in cost.

Through an Environmental Impact Study, the Corps has addressed the environment in the Cypress Creek Watershed and the project's considerations are to protect, preserve and maintain existing environmental values and to minimize unavoidable damages to the environment. The project plan incorporates mitigation measures to offset losses to acquatic and terrestrial

habitat and resources from construction. The proposed project is in compliance with the Fish and Wildlife Coordination Act, as amended.

The proposed recreational development plan will increase recreational opportunities for the general public and enhance the existing Cypress Creek Parkway System.

Clearly the Corps of Engineers has identified the need to reduce the flood damages now being sustained along Cypress Creek on a recurring basis. The Harris County Flood Control District has developed a Master Drainage Plan to allow orderly development of the remaining drainage system and features of this Master Plan can enhance the level of protection that is proposed in the Corps' Cypress Creek Plan.

There are few natural events more devastating than being a victim of a flood. Mr. Chairman, we ask the members of this subcommittee to seriously consider the plight of those residents in the Cypress Creek Watershed who have suffered physically and emotionally from the ravages of floods and to also consider with foresight, the safety of future development.

By appropriating $500,000 in FY '90 for the continuation of the Corps of Engineers' Cypress Creek Project, this subcommittee will have made a substantial benefit to our community, our State and our Nation. These Federal dollars spent today will save many more Federal dollars in years to come.

I would like to thank each member of this subcommittee for allowing me to testify on behalf of the U. S. Army Corps of Engineers' Cypress Creek Flood Control Project.

ARKANSAS RIVER BASIN PROJECTS

STATEMENTS OF:

ART WOODMAN, CHAIRMAN, ARKANSAS RIVER INTERSTATE COMMISSION

DENNIS SIMONS, CHAIRMAN, JACKSON COUNTY NAVIGATION DISTRICT

Senator JOHNSTON. Next, we have Art Woodman, chairman of the Arkansas River Interstate Compact, to talk about Arkansas River basin water resource projects.

Mr. WOODMAN. Mr. Chairman, are you ready?

We are grateful that Senator Dole was able to make our introduction to you, sir, as chairman, and members of this distinguished committee.

I am Arthur T. Woodman of Wichita, KS. It is my pleasure and honor this year to serve as chairman of the five-State Arkansas River Basin Interstate Committee, which consists of five delegates from each of the States of Arkansas, Colorado, Kansas, Missouri, and Oklahoma, as they were appointed by their Governors to represent those their respective States.

PREPARED STATEMENTS

As Chairman, I will be the spokesman for the committee and respectfully request that the copies of each State's individual statement be made a part of the record, along with this testimony.

Senator JOHNSTON. We will attach those to the record, be made a part of the record.

[The statements follow:]

STATEMENT OF ARTHUR T. WOODMAN, CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of this distinguished Committee, I am Arthur T. Woodman of Wichita, Kansas. It is my pleasure and honor this year to serve as Chairman of the five-state Arkansas River Basin Interstate Committee, which consists of five delegates from each of the states of Arkansas, Colorado, Kansas, Missouri and Oklahoma as they were appointed by their Governors to represent those respective states. As Chairman, I will be the spokesman for the Committee and respectfully request that the copies of each state's individual statement be made a part of the record, along with this testimony.

We collectively have the responsibility to coordinate water resource matters among the states and to speak for the Arkansas River Basin in appearances before Committees of Congress and regulatory agencies. We are joined here today by members of the Interstate Committee. In the interest of conserving the valuable time of your Committee, I request, Mr. Chairman, that they not be introduced individually, but rather stand as a group signifying the strong bond of support which water officials from the five states have developed.

The FY 1990 Administration Budget contains a number of vital water resource and flood control projects in the five states and we strongly recommend the approval of funds requested. Please note also in testimony submitted by the individual states, requests for additional funding for other specific projects which, collectively, we feel are essential.

In memoriam, we take this opportunity to recognize the years of effort and dedication of Houston Adams, Colonel Frances "Babe" Wilson, and Emmett Sanders over the years and their appearances before this distinguished Committee on behalf of the Arkansas Basin Development and all that it represents.

The Interstate Committee urgently recommends that Congress once again establish economic development as a national priority to include the use and development of our nation's waterways. We strongly recommend that the Department of Defense and the National Defense System recognize and encourage the utilization of our nation's waterways as an outstanding, cost-effective transportation system with global advantages.

We thank the Committee and other members of the Congress for their assistance in the continuation of the construction authority for the McClellan-Kerr Arkansas River Navigation Project until the remaining problems identified by the Corps of Engineers have been satisfactorily resolved. Of utmost importance is authorization and appropriation of funds to initiate construction of the Montgomery Point Lock and Dam at the mouth of the White River. This much-needed structure is essential to maintaining dependable and economical navigation for the entire McClellan-Kerr Arkansas River Navigation System.

Mr. Chairman and members of the Committee, I again sincerely and respectfully thank you and all of your predecessors for the wisdom you have demonstrated through the years as to the importance of investments in Water Resource Programs and Projects. Each of the water projects which have been authorized and funded by the Congress of the United States, and constructed by either the U. S. Army Corps of Engineers or the U. S. Bureau of Reclamation, has helped provide water management capabilities which have made our country strong and great. We all are deeply appreciative of the foresight and wisdom you and your colleagues have shown in providing solutions to water resource problems each and every year.

Thank you.

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ARKANSAS RIVER BASIN INTERSTATE COMMITTEE
APRIL 6, 1989

WITNESS LIST

OKLAHOMA

Glen L. Cheatham, Jr.	Executive Vice President, Arkansas Basin Development Association; Director, Waterways Division, Oklahoma Department of Commerce, Tulsa, OK
Coleman Fite	Oklahoma Interstate Committee; Member, Waterways Advisory Board, Oklahoma Department of Commerce; Vice President, Public Relations, First National Bank and Trust, Muskogee, OK
Robert W. Portiss	President, Arkansas Basin Development Association; Port Director, Tulsa Port of Catoosa, Catoosa, OK
Harold B. Scoggins	Chairman, Oklahoma Interstate Committee; Director, Arkansas Basin Development Association, Muskogee, OK
Sam Youngwirth	Executive Vice President, Muskogee Chamber of Commerce, Muskogee, OK

ARKANSAS

W. A. Gieringer	Chairman, Arkansas Interstate Committee; Director, Arkansas Basin Development Association; Executive Director, Pine Bluff-Jefferson County Port Authority, Pine Bluff, AR
Barry McKuin	President, Arkansas Basin Association; Director, Arkansas Basin Development Association; Winrock Farms, Inc., Morrilton, AR
Charles Maynard	Arkansas Interstate Committee; Director, Arkansas Basin Development Association; Senior Vice President, Union National Bank, Little Rock, AR

KANSAS

Roger Brown	Director, Arkansas Basin Development Association; Kansas Interstate Committee; President, Home National Bank, Arkansas City, KS;
W. Taylor Peckham	Director, Arkansas Basin Development Association; Kansas Interstate Committee; Peckham Insurance Agency, Augusta, KS;
Arthur T. Woodman	Chairman, Arkansas River Basin Interstate Committee; Acting Chairman, Arkansas Interstate Committee; Director, Arkansas Basin Development Association; Woodman-Architects, Wichita, KS

COLORADO

Charles L. Thomson	Chairman, Colorado Interstate Committee; Director, Arkansas Basin Development Association; General Manager, Southeast Colorado Water Conservancy, Pueblo, CO

STATEMENT OF ARTHUR T. WOODMAN, KANSAS CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of this distinguished Committee, I am Arthur T. Woodman, Architect, with offices in Wichita, Kansas, and Chairman of the Kansas Interstate Committee for the Arkansas River Basin. This statement is submitted today, representing the Kansas Delegation and my colleagues are Roger Brown, Bank Executive, Arkansas City; James O. Foster, Business Management Coordinator for Boeing Military Aircraft, Wichita; Frank Liebert, Attorney-at-Law, Coffeyville; and Taylor Peckham, Insurance Executive, Augusta.

We are honored to join with our colleagues from the great states of Arkansas, Colorado, Missouri and Oklahoma, which five (5) states comprise the Arkansas River Basin Interstate Committee, appearing before you in unison today to put forth specific allocations of Kansas and the Arkansas River Basin for essential water resource projects worthy of your support. This historic expression of the concern, strength and wisdom of you and your committee, is truly exhibited by the progression of preservation and enhancement of water resources over the years in this great land.

The projects in the Kansas portion of the Arkansas River Basin have been carefully reviewed by the Kansas delegation and reflect accurately the needs as presented in the Administration Budget, FY 1990, many of which are safety and conservation oriented. We again call your attention to those of the Corps of Engineers for construction:

Great Bend Flood Control	$ 7,400,000.
Halstead Flood Control	300,000.

The Great Bend project is most important to stop flooding of a great city in west/central Kansas. The Halstead Project is vital to the preservation of a community recognized for the outstanding major regional hospital and medical services to a regional farming community. This relatively small municipality of Halstead is struggling to stretch finances for local share and could use a special effort of funding to meet rising construction costs in the amount of $300,000 to avoid costly further delay. Similar appropriations are equally important to continue development of flood control protection by continuation of preconstruction design:

Arkansas City Flood Control	$ 370,000.
Winfield Flood Control	200,000.
Upper Little Arkansas River Watershed	150,000.

Of particular note and importance are the ongoing research and planning projects in the Administration Budget for your continued support which will provide data for intelligent decisions on major and vital water resource development in Kansas for the future, such as those of Department of Interior, Bureau of Reclamation:

Multi-state Groundwater Recharge Demonstration Program	$ 7,323,000.
Arkansas River Management Improvement Study	400,000.

We respectfully request your support of these projects as submitted and as attached hereto and vital to mediate major problems in our great state. In addition, we state herewith our support for the critical Montgomery Point Lock and Dam Project to

maintain viable commerce of navigation between the McClellan-Kerr Waterway and the Mississippi River.

In memoriam, we take this opportunity to recognize the years of effort and dedication of Houston Adams and Colonel Frances "Babe" Wilson over the years on behalf of the Arkansas Basin Development and all that it represents.

Mr. Chairman and Members of this Committee, we wish to thank you for the sincerely dedicated manner in which you and your distinguished colleagues in the Congress of the United States have dealt with the Water Resources Programs in allowing us to present our views and recommendations to you. We look forward with great expectations and hope for the future of water resource development in Kansas. With your assistance, it can be achieved.

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTRUCTION ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
KANSAS					
ARK RIVER AND TRIBS, GREAT BEND, KS TO TULSA, OK	FDP	400,000			
ARKANSAS CITY, KS	FC		370,000		
CANEY RIVER, KS & OK	FDP	150,000			
CLINTON LAKE, KS	FC				1,212,000
COUNCIL GROVE LAKE, KS	FC				710,000
EL DORADO LAKE, KS	FC				566,000
ELK CITY LAKE, KS	FC				675,000
FALL RIVER LAKE, KS	FC				807,000
GREAT BEND, KS	FC			7,400,000	
HALSTEAD, KS	FC			300,000	
HILLSDALE LAKE, KS	FC				609,000
JOHN REDMOND DAM AND RESERVOIR, KS	FC				1,322,000
KANOPOLIS LAKE, KS	FC				2,046,000
MARION LAKE, KS	FC				723,000
MELVERN LAKE, KS	FC				1,191,000
MILFORD LAKE, KS	FC				2,107,000
MISSOURI RIVER - SIOUX CITY TO MOUTH, IA, NE, KS & MO (SEE IOWA)					
MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS, & MO (SEE IOWA)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTRUCTION ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
KANSAS (CONTINUED)					
PEARSON - SKUBITZ BIG HILL LAKE, KS	FC				974,000
PERRY LAKE, KS	FC				1,677,000
POMONA LAKE, KS	FC				1,061,000
SOLDIER CREEK DIVERSION UNIT (MOD), TOPEKA, KS	RCP	100,000			
TORONTO LAKE, KS	FC				315,000
TURKEY CREEK BASIN, KS & MO	FDP	140,000			
TUTTLE CREEK LAKE, KS	FC				1,620,000
UPPER LITTLE ARKANSAS RIVER WATERSHED, KS	FC		150,000		
WILSON LAKE, KS	FC				1,038,000
WINFIELD, KS	FC		200,000		

DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

STATE OF KANSAS

CONSTRUCTION PROGRAM

Groundwater Recharge Demonstration Program, Applied Engineering (Arizona-California-Colorado-Idaho-Kansas-Montana-Nebraska-Nevada-Oklahoma-Oregon-South Dakota-Texas-Utah-Washington).

Fiscal Year 1989 . . . . . $3,000,000
Fiscal Year 1990 . . . . . $7,323,000

A joint State-Federal Groundwater Recharge Demonstration Program will be continued in fiscal year 1990 to test various artificial means of supplementing some of the declining ground water supplies in the West. Reclamation will carry out cooperative agreements with non-Federal sponsors of 21 projects in the Western states. The projects will provide the Federal Government important information and data on the technology of ground water recharge, while at the same time providing local sponsors with potential new ways to meet future water supply needs.

GENERAL INVESTIGATIONS

Wholly Within the State

	FY 1989	FY 1990	Report Completion (fiscal year)
Kansas River Basin Water Management Study	$ 90,000	$ ---	1989
Arkansas River Water Mgt. Improvement Study	150,000	400,000	1992
Ninnescah River Salinity Water Management Study	89,000	---	1989

OPERATION AND MAINTENANCE

Project	FY 1989	FY 1990
Pick-Sloan Missouri Basin Program, Missouri Basin Area (Colorado-Kansas-Montana-Nebraska-North Dakota-South Dakota-Wyoming)		
Appropriated Funds	$19,172,000	$ 4,544,000
O&M Revolving Funds	-0-	18,177,000
Water User Advances	828,000	863,000
Other Federal Advances	90,000	90,000
Total - Missouri Basin Area	$20,090,000	$23,674,000

STATEMENT OF CHARLES L. THOMSON, COLORADO CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman, and members of this distinguished Committee, my name is Charles L. Thomson, and I am General Manager of the Southeastern Colorado Water Conservancy District, with offices in Pueblo, Colorado. I submit this statement today on behalf of the other four members of the Colorado delegation, who were appointed by our distinguished Governor, the Honorable Roy Romer. My colleagues are Mr. John E. Javernick, farmer and rancher from Canon City, representing the Upper Arkansas Basin in Colorado; Mr. Lee Hancock, retired Superintendent of the High Line Canal Company near Rocky Ford, representing the Lower Arkansas Basin; Mr. Raymond D. Nixon, retired Executive Director, Department of Public Utilities for the City of Colorado Springs, representing municipal and domestic water users, and Mr. William McDonald, Director, Colorado Water Conservation Board in Denver, representing the office of the Governor. We are truly honored today, Mr. Chairman, and members of the Committee, to join our colleagues from the other great States of Arkansas, Missouri, Oklahoma and Kansas, who make up the Arkansas River Basin Interstate Committee, and appear before you as a unified group respectfully requesting appropriations for necessary water resource projects in our five states.

The members of the Colorado delegation have carefully reviewed the construction and operation and maintenance requests submitted by President Ronald Reagan and President George Bush, for Projects in Colorado, and wholeheartedly endorse each of them as essential elements in the continued programs of the United States Bureau of Reclamation and the U.S. Army Corps of Engineers.

The Administration Budget recommends the following for continued construction on the Fryingpan-Arkansas Project in FY 1990:

Construction	$6.000 million
O & M	$2.078 million

The construction funds provide for the completion of the Pueblo Recreation Facility at Pueblo Reservoir, and the Fountain Valley Conduit between Pueblo Dam and Colorado Springs. Funds will also be available to continue the necessary rehabilitation of sections of the Bessemer Ditch, which carries agricultural water through a major part of the City of Pueblo. This Project is a perfect illustration, Mr. Chairman, of the benefits from the Water Resources Development Act of 1986, which provides for local cost sharing. In this instance, a Project which was authorized by the Congress of the United States in 1980 was amended to permit the lining of the remaining portion of the ditch, and a sole source contract was authorized between the Bureau of Reclamation and the irrigation company, with supplemental funds being provided by the City of Pueblo. The company contributed "in kind" funds through the use of their equipment and personnel.

Construction funds will permit the Bureau to award contracts to up-rate the Static Starter at the Mt. Elbert Pumped Storage Power Plant; to clean the Pueblo Dam drains, which have now been in operation for 15 years; to build a Boat Ramp for the Twin Lakes Fish and Wildlife Facilities, and to construct an Operation and Maintenance Building for the Project.

The $2.078 million for Annual Operation and Maintenance is a part of the Proposed Reclamation, Operation and Maintenance Revolving Fund, which will allow the Bureau to pursue its emphasis on effective management of the O, M & R activities, and insure meeting contract commitments for water and power deliveries. The creation of the Revolving Funds provides an opportunity for increased communication and Project coordination between the Bureau and Power Marketing Administrations, and the funding resources will be sufficient to accomplish the objectives of the O&M Program on an ongoing basis through the use of Project revenues, including reimbursement by Project beneficiaries and advances by water users. The Southeastern Colorado Water Conservancy District pays a substantial amount each year as part of the O & M costs.

Leadville Mine Drainage Tunnel	$4.550 million

Mr. Chairman, and members of the Committee, we also strongly recommend and support the request of $4.550 million, which will permit the Bureau of Reclamation to continue preconstruction activities, pumping and monitoring stations at the Leadville Mine Drainage Tunnel, which is located at the headwaters of the Arkansas River. Contracts will be awarded for tunnel lining, construction of a Water Treatment Plant and a Security System at the Pumping Plant site. This is a project which the Bureau of Reclamation inherited from the U.S. Department of Mines in the mid-1960's, and the tunnel is a source of seriously contaminated water, which adversely affects a major part of the Arkansas River in Colorado. The Bureau has made great strides in their preliminary work in cleaning up the problem, and the funds will permit them to progress much more rapidly.

The members of the delegation from Colorado have also reviewed the "Civil Works Budget Requests for the U.S. Army Corps of Engineers", and have discussed the recommendations with representatives from the Corps Office in Pueblo, and the District Office in Albuquerque. We respectfully recommend:

Fountain Creek Project, Pueblo, Colorado	$1.036 million
Fountain Creek, Colorado Springs	$220,000
John Martin Reservoir O & M	$1.377 million
Trinidad Lake, O & M	$573,000

The $1,036,000 for the Fountain Creek Project in Pueblo will permit the contractor to complete that work, and it is anticipated he will do so well ahead of the original schedule. The contract was awarded in 1988, and the Honorable Robert K. Dawson, former Assistant Secretary of Army (Civil Works), and Associate Director for Natural Resources, Office of Management and Budget, was the principal speaker at the Ground Breaking Ceremony on July 1, 1988 When completed, this Project will provide flood protection for a major part of the downtown business district, and a large low income residential area. It is physically located immediately adjacent to a mainline railroad track and Interstate Highway #25. This Project was one of the first ones authorized under the Water Resources Development Act of 1986, and provides for appropriate cost sharing, which has been provided by the City of Pueblo.

The $220,000 for Fountain Creek in Colorado Springs will permit the Corps to continue preconstruction engineering and design on Proposed Flood Control Measures in the City of Colorado Springs and several communities downstream on Fountain Creek. This area is subject to severe flooding conditions, due to the fact Monument Creek and Fountain Creek converge in that section, near the heart of downtown Colorado Springs.

The recommended $1.377 million for John Martin Reservoir, and $573,000 for Trinidad Reservoir will permit the Corps to continue necessary Operation and Maintenance for those very important dams and reservoirs. I am pleased to report, Mr. Chairman, the Corps has been able to complete work on a boat ramp and toilet facilities at John Martin Reservoir, as a result of the appropriations which you authorized during the last two years. You may be assured those facilities will attract a large number of people who might otherwise might not be able to enjoy such recreational facilities in other parts of the state.

During the Annual Meeting of the Interstate Committee, in Tulsa, Oklahoma, March 9, 1989, detailed discussion was had regarding the critical need for construction of the Montgomery Point Lock and Dam Project, located at the confluence of the Arkansas and Mississippi Rivers. This subject will be covered in detail in the statements submitted by the States of Arkansas and Oklahoma, and by our Chairman, Mr. Arthur Woodman. The members of the Committee from Colorado respectfully urge the authorization and early construction of this essential Project, in order that water borne commerce may continue and grow on the McClellan-Kerr Waterway.

Mr. Chairman, and members of the Committee, once again we want to sincerely compliment you, and your predecessors, for the foresight, wisdom and courage which each of you have demonstrated down through the years by providing funds for essential water resource management programs throughout the United States. Those of us in the water management business dread to think what problems would face our nation today, in both water quality and quantity, were it not for that foresight. These past few drought years throughout most of the nation has focused public attention on the absolute importance of strategically located reservoirs which can impound water during times of surplus, and prevent flooding, and make those waters available in periods of shortage for domestic, agricultural, transportation and recreational uses. We truly appreciate the opportunity to appear before you today, and stand ready to provide additional and more specific information upon your request, or that of members of your fine Staff.

STATEMENT OF HAROLD SCOGGINS, OKLAHOMA CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

We urge that Congress ensure that the construction account of the McClellan-Kerr Arkansas River Navigation System remain open. Serious problems have arisen at the waterway entrance to the navigation system. Extensive testing has proved that construction of a navigation lock and dam will be necessary to correct the problem. This problem must be corrected quickly and cannot stand the time consuming delays of new appropriations if the construction account is closed.

It has been with unrelenting effort of some regional organizations that some rather extensive test moves of National Guard equipment have been accomplished at substantial savings to the military. It is in this light that we ask Congress to provide funds necessary to the National Guard Bureau specifically to build permanent dock facilities at those installations along the inland waterway system, where a real efficiency can be realized from their use.

We want to express our great concern over proposed cost sharing requirements to be implemented in the Planning Assistance to States Program. Our committee strongly recommends that cost sharing could result in much needed information not being made available to State water resource planning efforts. Our committee believes that the costs of administering a cost sharing program would more than offset the savings.

Mr. Chairman and members of the Committee, I am Harold Scoggins, Oklahoma Chairman of the Arkansas River Basin Interstate Committee, from Muskogee, Oklahoma.

It is my privilege to present this statement on behalf of the Oklahoma members of our Committee in support of adequate funding for water resource development projects in our area of the Arkansas River Basin. Other members of the Committee appointed by the Governor are: Mr. E. R. Albert, Jr., Mr. Robert S. Kerr, Jr., Mr. Fred G. Turner, and Mr. Coleman Fite.

Together, with representatives of the other Arkansas River Basin states, we fully endorse the statement presented to you today by the Chairman of the Arkansas River Basin Interstate Committee.

We appreciate the opportunity to present our views of the special needs of our state concerning several studies and projects.

We urge that Congress ensure that the construction account of the McClellan-Kerr Arkansas River Navigation System remain open. Serious problems have arisen at the waterway entrance to the navigation system. Extensive testing has proved that construction of a navigation lock and dam will be necessary to correct the problem. This problem must be corrected quickly and cannot stand the time consuming delays of new appropriations if the construction account is closed.

We are particularly pleased that the President's budget includes funds to advance work for flood control in Oklahoma. As you know, our state was devastated by the flood of October, 1986. The flood caused almost $300 million in property damages. Existing flood control projects prevented over $700 million in damages which would have occurred without those projects. Of special interest to our committee is funding of $6.4 million for

rehabilitation of Wister Dam and for authorized flood control projects, including $200,000 for Parker Lake in southeastern Oklahoma; $13,000,000 for Mingo Creek, Tulsa, Oklahoma; and $450,000 for Fry Creeks, Bixby, Oklahoma. Funds in the budget are needed for the following flood control studies: the Arkansas River in the reach from Keystone Dam to Tulsa; Caney River in the vicinity of Bartlesville, Oklahoma; Grand (Neosho) River in the vicinity of Miami, Oklahoma; North Canadian River above Lake Overholser, Oklahoma; Arkansas River Basin Feasibility Study, Arkansas and Oklahoma; Crutcho Creek, Oklahoma City Channel Improvement. We also support funding for the Small Flood Control Projects Program (Section 205 of the 1948 Flood Control Act, as amended). Funds are needed under that program to provide local flood protection along Sam Creek, Muskogee, Oklahoma; Merkle Creek, Norman, Oklahoma; Blackboy Creek, Tulsa, Oklahoma; Coweta Creek, Coweta, Oklahoma; Dog Creek, Waynoka, Oklahoma; Tahlequah Creek, Tahlequah, Oklahoma; Joe Creek, Tulsa, Oklahoma; Chikaskia River, Blackwell, Oklahoma; and many other areas within our state. We support funding for the Emergency Streambank Stabilization Program, (Section 14 of the 1946 Flood Control Act, as amended). Funds are needed under that program to prevent streambank erosion and resulting damages to public facilities along Tyner Creek, Adair County, Oklahoma; North Canadian River, Spencer, Oklahoma; the Arkansas River, Tulsa, Oklahoma; the North Canadian River, Oklahoma County, Oklahoma; the North Canadian River, Pottawatomie County, Oklahoma; the Chikaskia River, Blackwell, Oklahoma; Salt Fork of the Arkansas River, Kay County, Oklahoma; and many other areas within our state.

Of particular interest, given today's economy and the budget constraints under which the Defense Department is being required to operate, is the military's use of the inland waterways. It has been with unrelenting effort of some regional organizations that some rather extensive test moves of National Guard equipment have been accomplished in the past 2 years at substantial savings to the military. It is in this light that we ask Congress to provide the funds necessary to the National Guard Bureau specifically to build permanent dock facilities at Boudinot Safety Harbor on the McClellan-Kerr Waterway to serve Camp Gruber, Oklahoma and a similar facility at W. D. Trimble Lock and Dam near Fort Smith, Arkansas, to serve Fort Chaffee. The Oklahoma and Arkansas Army National Guards have acquired deck barge assets on loan from TROSCOM and the dock facilities are needed to maximize the savings potential and defense preparedness that can accrue from water transportation.

There are six projects omitted from the Federal Budget that, in our opinion, are critical to the continued development of water resources in Oklahoma. We are requesting that the Committee add the projects and funding outlined herein.

Of those six, we specifically ask the Congress to provide funds for the Corps of Engineers to continue Preconstruction Engineering and Design on Sand Lake in northeastern Oklahoma. This work should not be forsaken for imagined difficulties in future land acquisition. We recommend and urge your support to provide funding for the start of construction for Big and Little Sallisaw Creeks Navigation Project, Sallisaw, Oklahoma.

We appreciate the concern the Subcommittee has shown in the past regarding a drastic reduction in funding of water resource development in this country. We support and encourage continued water resource development to ensure America's future growth and prosperity.

We want to express our great concern over proposed cost sharing requirements to be implemented in the Planning Assistance to

States Program (Section 22 of the 1974 Water Resources Development Act and the Flood Plain Management Services Program, Section 206 of the R&H and FCA of 1960). Our committee strongly recommends that cost sharing could result in much needed information not being made available to state water resource planning efforts. Our committee believes that the costs of administering a cost sharing program would more than offset the savings.

Finally, Mr. Chairman, we want to take this opportunity to recognize the passing of two of Oklahoma's "Water Pioneers". The long years of effort and dedication by Mr. Houston Adams and Colonel Frances "Babe" Wilson and their appearances before this distinguished Committee on behalf of the Arkansas Basin Development, will be greatly missed.

We thank the distinguished Committee for the opportunity to present our views on Fiscal Year 1990 requirements for water resource development in Oklahoma.

FISCAL YEAR 1990

OKLAHOMA -- Recommendations in Addition to President's Budget

	Project:	Funds Requested to:
1.	Arkansas Basin Chloride Control Project	Continue advanced engineering and design
2.	Arkansas-Red River Basin Solar Energy Investigations	Continue study
3.	Big and Little Sallisaw Creeks Navigation Project	Initiate construction
4.	Candy Lake	Continue construction
5.	Sand Lake	Continue advanced engineering and design
6.	Pryor, Oklahoma Navigation	Initiate Reconnaissance Study

DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

STATE OF OKLAHOMA

Work has been initiated on the Bureau of Reclamation/Oklahoma Water Resources Board artificial recharge project located in Harmon County, Oklahoma. This project, one of the 21 sites across the nation approved as part of the High Plains States Groundwater Demonstration Program, entails a five-year study of the channeling of surface water runoff into natural gypsum sinkholes and man-made recharge wells in the Blaine Gypsum to observe any recharge effects on the formation's state water level. In addition, the OWRB has submitted a proposal to the BUREC for construction of a subsurface dam to enhance groundwater efficiency under the Groundwater Demonstration Program. The subsurface dam would be located just north of the City of Woodward, Oklahoma, in the North Canadian Terrace Deposits with the purpose of slowing the groundwater flow around their municipal well, thus enhancing the withdrawal efficiency of the system. With this in mind, we urge the Committee's continued support of the Groundwater Demonstration Program and request that you add funding for the new Woodward Project.

We also urge your support for funding of (1) the Roubidoux Natural Resource Management Study that will investigate the potential for developing a comprehensive management plan for this threatened fresh water aquifer, and (2) completion of the Northwest Oklahoma Water Supply Study within the BUREC budget among others outside the Arkansas River Basin.

We want to express our concern over the de-emphasis of weather modification as an alternative, innovative water resources development technology within the BUREC. We believe that Oklahoma's recent efforts with the BUREC under the Southwest Cooperative Program have already set the stage for a successful demonstration of state of the art cloud seeding technology to increase summertime rainfall. Considering the recent devastating effects of drought in Oklahoma and other plains region states, we urge the Committee to restore funding to the BUREC's weather modification program and in particular to the Southwest Cooperative Program.

We also want to express our deep concern over the proposed budget cut in the United States Geological Survey's water resources programs. Some $8.5 million is proposed to be cut from the USGS program that will produce devastating effects to long term federal/state cooperative water resources data collection, analyses and decision making not only in Oklahoma, but nationwide. We urge the Committee to restore full funding to this vital resources management program.

STATEMENT OF WALLACE A. GIERINGER, ARKANSAS CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of the Committee, my name is Wallace Gieringer. I serve as Executive Director of the Pine Bluff-Jefferson County Port Authority and Arkansas Chairman of the Interstate Committee. Other Committee members representing Arkansas are Messrs. Wayne Bennett, farmer from Lonoke; Michael C. Carter, attorney from Fort Smith; Charles Maynard, banker from Little Rock; and Charles L. Steel, retired electric utility executive from Little Rock.

We fully endorse the statement presented to you today by the Chairman of the Arkansas River Basin Interstate Committee and appreciate the opportunity to testify before your most important subcommittee.

Certain projects in our region are vital to the economic well-being of the region and our nation. We strongly recommend that you favorably consider the following in your budgetary deliberations.

* Support for all funding included in the President's budget for the construction, operation and maintenance of the McClellan-Kerr Arkansas River Navigation System.

* Continuation of construction authority for the McClellan-Kerr Arkansas River Navigation Project until the remaining problems identified by the Little Rock District Corps of Engineers have been satisfactorily resolved.

  Of utmost importance is authorization and appropriation of funds to initiate construction of the Montgomery Point Lock and Dam at the mouth of the White River. Last year alone the Corps spent over $4 million in this area for dredging to alleviate what has become an annual low-water problem. That cost is increasing as the problem is growing each year. This much-needed structure is essential to

maintaining dependable and economical navigation for the entire McClellan-Kerr Arkansas River Navigation System. Other problems include:

** continuing the construction of the extension of the Arkansas-White River cut-off structure which will start this year;

** complete detailed engineering for and initiate the much-needed repairs at Dam 2 to provide for its safety; and

** studies to determine needed additional real estate along the navigation system to allow the system to operate as originally designed.

* Funding to complete the important Arkansas River Basin Study to resolve problems related to navigation, flood reduction and municipal, industrial and agricultural water supply for which the States of Arkansas and Oklahoma entered into cost-sharing contracts. The study includes the examination of alternative operating plans for the existing system and the authorities therefor, including storage and release of waters from upstream reservoirs. We have continuing concern about these water releases and their adverse impact on navigation.

* We request that the Congress go on record recognizing a Federal interest in authorization and funding of off-channel harbors in accordance with "Economic and Environmental Principles and Guidelines for Water and Related Resources Implementation Studies" (dated March 1983) for all navigation projects. The current policy is contributing to reduced economic growth in already economically depressed areas of our nation. This urgently needs to be corrected as slackwater harbors contribute to economic development, tax revenues and reduced transportation costs while enhancing our nation's competitive posture in a global economy.

* We urge the Congress to encourage the Military Traffic Management Command to redouble their efforts to identify opportunities to accelerate their use of the nation's navigable waterways to move military cargoes which will help contain the nation's defense costs.

When the McClellan-Kerr project was constructed, the Corps of Engineers did not excavate the Arkansas-White Canal to its full depth as it was not needed 20 years ago. The growth of sediment deposits require excavation of the canal to its full depth. This would permit the Corps to operate Pool 2 as it does the other pools in the system to move sediments through and thus reduce the annual dredging costs and the problems associated with its disposal. Accordingly, we request the committee to provide extra operation and maintenance funds for this operational activity to be started in FY 90.

We continue to be concerned that recently expanded non-Federal cost-sharing requirements limit participation in federal water programs to wealthy states and communities. The poorer areas of our nation which have the greatest need and growth potential - but limited tax base - are unable to participate because they cannot even meet the study cost-sharing requirements.

We thank you for the privilege of speaking to you today and urge you to favorably consider our request.

LETTER FROM ROBERT G. BRAVE, PRESIDENT, ARKANSAS-OKLAHOMA PORT OPERATORS ASSOCIATION

March 29, 1989

Mr. Arthur T. Woodman
Chairman
Interstate Committee
Woodman Architects
330 North Main
Wichita, KS 67202

Dear Mr. Woodman:

Please include this letter of endorsement and support in the Interstate Committee's packet of water resource position statements for the Arkansas Basin area that you will present to the Congress during the week of April 3, 1989. We strongly support and encourage favorable consideration by the Congress for the various water resource projects outlined in those statements. Especially important to us is funding for the construction of Montgomery Point Lock & Dam Zero. This structure will result in viable year-round commercial barge transportation service into the heartland of our Nation as stipulated in the original authorizing documents for the McClellan-Kerr Arkansas River Navigation System.

We appreciate your willingness to include our letter of support and wish you great success with your testimony on behalf of the Arkansas Basin States.

Sincerely,

Robert G. Brave
President

STATEMENT OF BARRY McKUIN, PRESIDENT, ARKANSAS BASIN ASSOCIATION

I am Barry McKuin, Executive Vice President of Winrock Farms, Inc., and serve as President of the Arkansas Basin Association. This organization has for many years been working on behalf of development of the Arkansas River Valley with particular emphasis on the McClellan-Kerr Arkansas River Navigation Project.

We offer our testimony as a part of that presented by the chairman of the Arkansas River Basin Interstate Committee, representing our five state area.

We request approval of the President's budget that affect construction and operation and maintenance of the McClellan-Kerr Arkansas River Navigation System. We call particular attention to the items described below.

We feel it is extremely important that the construction authority presently in place for the McClellan-Kerr Project be continued. This is especially necessary until the important work required to remedy the low water problems in the lower White River are complete and corrective action is taken to restore project depths in the Arkansas Post Canal, the entry portion to the McClellan-Kerr System.

We ask for authorization and appropriation of funds to construct Montgomery Point Lock and Dam (L&D 0)at the mouth of the White River. This structure is necessary to insure adequate channel depth for the McClellan-Kerr System. It should be considered as part of the continuing construction for the McClellan-Kerr Navigation Project because the lock and dam are required in order for the McClellan-Kerr System to reach a completed status.

Further needs include; (a) continuing the work on the Arkansas-White River cut-off structure, (b) completing detailed engineering and performing the repairs at Lock and Dam 2; (c) studying to determine the additional real estate needed for the system to operate as designed and; (d) approving additional operation and maintenance funds for sediment removal.

We urge approval of the funding to complete the Arkansas River Basin Study. This study is a cooperative effort with Arkansas and Oklahoma to solve problems related to navigation, flood reduction and water supply. The study includes alternative operating plans for storage and release of water from upstream reservoirs to minimize adverse effects on navigation.

Again, we thank you for allowing us to appear here today before your subcommittee and for your continued support of these projects.

STATEMENT OF CHARLES D. MAYNARD, CHAIRMAN, PULASKI COUNTY FLOOD CONTROL ASSOCIATION

I am Charles D. Maynard, Colonel U.S. Army, Corps of Engineers, Retired. I appear here today as a member of the Arkansas River Basin Interstate Committee, Secretary/Treasurer of the Arkansas Basin Association, and as Chairman of the Pulaski County Flood Control Association, a Committee of the Greater Little Rock Chamber of Commerce.

The Pulaski County Flood Control Committee, supports the statements presented to this Committee today by the Chairman of the Arkansas River Basin Interstate Committee and that of Mr. Wallace Geringer, Arkansas Chairman of that Interstate Committee as well as the statement submitted by Mr. Barry McKuin, President of the Arkansas Basin Association.

We request this Committee to approve the $6,000,000 in the President's FY '90 budget for continuing construction of the Fourche Creek Flood Control Project in the vicinity of Little Rock. This project, with a 35% local cost sharing, is proceeding well. All local participation agreements are in order. This project, when completed, together with studies underway in Dark Hollow, North Little Rock, will solve 75% of the flooding problem in Little Rock and Pulaski County and will reduce the danger of deadly floods as have been experienced in Little Rock.

The Pulaski County Flood Control Association, strongly urges the continuation of the construction authority for the McClellan/Kerr Arkansas River Navigation System until all remaining problems as identified by the Corps of Engineers have been resolved and construction required completed.

Specifically, we seek an appropriation for the authorized Lock and Dam, Lock and Dam Zero (the Montgomery Point Lock and Dam) on the lower end of the White River, under the above authorizing authority.

This structure needs to proceed to construction as rapidly as possible. In the past few years due to the degradation of the Mississippi River, insufficient depths for navigation in the lower part of the White River have resulted. Last year alone, over $4,000,000 was expended in dredging in order to keep the system open and even then at a reduced level of operation from the authorized level.

What we seek is not an authorization for this structure but an appropriation and initiation of construction.

We urge funding of the Arkansas River Basin study. This project will identify problems relating to navigation, flood control and MIA water uses. Both the states of Arkansas and Oklahoma have entered into cost sharing agreements with the Federal Government to pay their portion of study costs. This study needs to be kept on target.

We also seek funding for sufficient O&M funds to allow the deepening of the Arkansas River Canal to the full depth authorized by the authorizing legislation. When this canal was constructed, the depth to which constructed was not sufficient to offset the increased sedimentation that has entered into this section of the project, with the result that at times curtailment of barge loads must take place. We request sufficient O&M funds to deepen the White River Canal to the authorized level.

The Arkansas River has been a magnificent addition to the forces promoting growth and development in the states and regions through which the river flows. Its importance in the future industrial growth of this important agricultural segment of our Nation is dependent upon continuing O&M funding and elimination of the low water problems at Lock and Dam Zero and the White River Canal. We urgently request your attention to the solutions of these matters.

We thank you for being allowed to be here today and to present our needs.

Mr. WOODMAN. We collectively have the responsibility to coordinate water resource matters of the States and speak for the Arkansas River Basin in appearances before committees of Congress and regulatory agencies. We are joined here today by members of the interstate committee. In the interest of conserving the valuable time of your committee, I request, Mr. Chairman, that they not be introduced individually, but rather stand as a group signifying the strong bond of support which water officials from the five States have developed.

Senator JOHNSTON. Would the group stand? Thank you very much, gentlemen, for coming.

Mr. WOODMAN. The fiscal year 1990 administration budget contains a number of vital water resource and flood control projects in the five States. We strongly recommend the approval of funds requested. Please note also in testimony submitted by the individual States, requests for additional funding for other specific projects which, collectively, we feel are essential.

In memoriam, we take this opportunity to recognize the years of effort and dedication of Houston Adams, Col. Frances "Babe" Wilson, and Emmett Sanders over the years and their appearances before this distinguished committee on behalf of the Arkansas basin development and all that it represents.

The interstate committee urgently recommends that Congress once again establish economic development as a national priority to include the use and development of our Nation's waterways. We strongly recommend the Department of Defense and the national defense system recognize and encourage the utilization of our Nation's waterways as an outstanding, cost-effective transportation system with global advantages.

We thank the committee and other Members of the Congress for their assistance in the continuation of the construction authority for the McClellan-Kerr Arkansas River navigation project until the remaining problems identified by the Corps of Engineers have been satisfactorily resolved. Of utmost importance is authorization and appropriation of funds to initiate construction of the Montgomery Point lock and dam at the mouth of the White River. This much-needed structure is essential to maintaining dependable and economical navigation for the entire McClellan-Kerr Arkansas River navigation system.

Mr. Chairman and members of the committee, I again sincerely and respectfully thank you and all of your predecessors for the wisdom you have demonstrated through the years as to the importance of investments in water resource programs and projects. Each of the water projects which have been authorized and funded by the Congress of the United States, and constructed by either the Corps of Engineers or the U.S. Bureau of Reclamation, has helped provide water management capabilities which have made our country strong and great. We all are deeply appreciative of the foresight and wisdom you and your colleagues have shown in providing solutions to water resource problems each and every year. We thank you.

Senator JOHNSTON. Thank you very much. I appreciate your testimony, Mr. Woodman.

I understand Congressman Hochbrueckner is in the audience.

Congressman, we are very pleased to welcome you to the committee. We will take you out of order.

Mr. HOCHBRUECKNER. Actually, if I could request to change the order slightly. Two of our witnesses from Long Island are not here yet. They are on their way. If we could delay a few minutes.

Senator JOHNSTON. Oh, sure. We will wait until your people come.

In the meantime, we will welcome the Jackson County Navigation District, Dennis Simons, chairman.

RED BLUFF CHANNEL, TX

STATEMENT OF DENNIS SIMONS, CHAIRMAN, JACKSON COUNTY NAVIGATION DISTRICT

Mr. SIMONS. Mr. Chairman, my name is Dennis Simons. I am chairman of the Jackson County Navigation District. I appreciate the opportunity to appear before this subcommittee today. After seeing the large delegations that have been here before, I can only hope that the considerations for the budget are not based on the number of people who are present. I represent today a delegation of one.

The Jackson County Navigation District is in a small rural county on the Texas gulf coast. That is located midway between the Houston/Galveston area and Corpus Christi. Since our area's economy is based on agriculture and oil and gas, we have felt the brunt of the economic downturn. Our area does, however, have the potential to attract large industrial complexes. Only a matter of a few hundred yards to the south of our county line in Calhoun County, Formoso Plastics is beginning construction of a $1.7 billion plant. This is expected to attract many satellite plants to the area.

Jackson County has sites in this area with access to a large fresh water supply, rail transportation, highway transportation, petroleum pipelines, and a large labor force from which to draw. The only negative factor is the lack of accessibility to barge transportation.

Although the tracks of land are located on the Lavaca River, which is an authorized Corps of Engineers project known as the Red Bluff Channel, they are not accessible by barge because of the current depth, which in places is under 4 feet. No maintenance dredging has been performed on the river portion of the channel since about 1962 and on the bay portion since 1981.

As I point out in my written statement, Jackson County has recently lost two potential industrial prospects due to our lack of barge accessibility. I feel it is my duty as chairman of the navigation district and as a fifth-generation resident to do all that I can to see that this does not happen again.

To briefly summarize the request which we are making, first, we are requesting funding for the resumption of maintenance dredging on the Red Bluff Channel. Second, we are requesting funding for a study to determine the feasibility of enlarging the channel to a depth of 12 feet and a width of 125 feet. I have submitted for the consideration of the subcommittee my written statement, along with supporting statements from the Jackson County Commissioners Corps, the Lavaca-Navidad River Authority, the Calhoun

County Navigation District, the Jackson County Economic Development Board, and the Jackson County Chamber of Commerce.

Thank you again for this opportunity. I would be glad to answer any questions that you might have.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Mr. Simons. I appreciate your statement, which is a strong one, on behalf of Jackson County Navigation District. We will do our dead-level best to do as you ask. Thank you very much.

[The statement follows:]

STATEMENT OF DENNIS SIMONS

I am Dennis Simons, Chairman of the Jackson County Navigation District, Jackson County, Texas. I appreciate the opportunity to speak before this Committee concerning the funding of two projects related to the Red Bluff Channel in Jackson and Calhoun Counties. Briefly, the projects for which we seek funding are as follows:

1. Funding for the resumption of maintenance dredging of the Lavaca River(Red Bluff Channel), Jackson/Calhoun Counties, Texas.

2. Funding for a study to determine the feasibility of enlarging the dimensions of the channel to a depth of 12 feet and a width of 125 feet.

The Jackson County Navigation District was created in 1951 by a county-wide election which was called under authority of Sections 61.001 et seq. of the Texas Water Code. The District's responsibility covers all navigable water in Jackson County, Texas, including the Lavaca River.

Jackson County is located on the Texas Gulf Coast midway between Houston/Galveston and Corpus Christi. The Lavaca River is the only major river along the Texas Gulf Coast that has not been developed for industrial use.

Jackson County has been actively pursuing industrial development to replace the instability of the oil markets which has caused a decrease in taxable value in the County of about 34 percent in the past three years. While rural Jackson County is presently in dire economic straits, the area has much to offer new industry. Lake Texana, in the heart of Jackson County, contains the only large uncommitted fresh water supply west of Houston. The area has a large labor market, and tax abatement programs for new industries are in place. Large industrial sites with water, rail, and highway access, and numerous petroleum and petroleum products pipelines are available.

The Jackson County Economic Development Coordinator has recently been advised of the interest of two large industrial firms in locating in the County. Each of these firms would require barge accessibility to the industrial sites. The industrial sites are located along the Lavaca River, which

was once navigable and is an authorized U. S. Army Corps of Engineers project, termed the Red Bluff Channel. Unfortunately, the channel is presently unsuitable for barge traffic and due to this, the sites were dropped from consideration.

The channel is 20.2 miles long and has authorized dimensions of 6 feet in depth and 100 feet in width. It is a tributary channel to the 12 foot by 125 foot Port Lavaca Channel which provides access to the Gulf Intracoastal Waterway and the Nation's inland waterway system via the deep-draft Matagorda Ship Channel. No maintenance dredging has been performed on the river portion of the channel since about 1962 and the Lavaca Bay segment since 1981. Attached for your reference are maps showing the location of Red Bluff Channel and its relationship to the deepwater Matagorda Ship Channel.

The Jackson County Navigation District respectfully requests your assistance in obtaining funds for the Corps of Engineers to resume maintenance dredging of the Red Bluff Channel. However, we do not believe that maintenance of the channel would be necessary north of FM 616 and the Union Pacific bridges near Lolita, thus saving over three miles of channel length. To accomplish this work, the District will certainly cooperate with the Corps in providing the necessary easements for spoil materials.

Additionally, the Navigation District and Development Coordinator have been advised by industrial consultants that a 6 foot by 100 foot channel is becoming less desirable since transport economics are requiring, in the long term, wider and deeper draft barges. We realize that such a channel would require a long period of planning studies and Congressional approval and funding. The District sincerely believes that a channel of approximately 12 foot depth and 125 foot width is required to attract and retain the industries which are so vital to this area's economy. The Navigation District also envisions constructing permanent public commerce dockage near the terminus of the channel. This would provide access to navigation commerce by those entities not able to locate directly adjacent to the channel. Therefore, the District also respectfully requests your assistance in

obtaining authorization and funding for commencement of a deep draft study of the Lavaca River Channel to Lolita by the U. S. Army Corps of Engineers. A study to investigate the feasibility of modifying the existing channel was authorized by a House of Representatives committee resolution adopted on August 8, 1984, however, no funds have been appropriated, to date, to initiate the study. If not funded this year, it is my understanding that the study would be automatically deauthorized under provisions of Section 710 of the Water Resources Development Act of 1986.

The Jackson County Navigation District will gladly provide every assistance possible. Additionally, other governmental entities such as the Jackson County Commissioner's Court, the Lavaca-Navidad River Authority and the Calhoun County Navigation District, which has jurisdiction over a 6.5 mile portion of the channel, have offered their full cooperation and assistance in this matter. Their statements are attached to my written statement, along with statements from the Jackson County Economic Development Board and the Jackson County Chamber of Commerce, for inclusion in the record of this hearing.

On behalf of the Navigation District and the citizens of Jackson County, Texas, I appreciate the opportunity to appear before this committee to speak about a matter of extreme importance in the future economic development of our area.

STATEMENT OF LAVACA-NAVIDAD RIVER AUTHORITY

The Jackson County Navigation District has rightfully determined an urgent need for navigation on the lower Lavaca River in Jackson County. As you know, the economic situation in Jackson County is critical. However, this community is pulling together to improve the local economy by utilizing the County's natural assets; labor, water, oil, transportation, and land in attracting new industry. While highway and rail transportation is certainly adequate at the proposed industrial locations, water transport is sorely lacking and needed.

Jackson County offers the only large available and uncommitted water supply west of Houston which is so important in drought vulnerable Texas for industrial needs. Also to be considered are State and Federal clean air standards, which probably will preclude any significant amount of industrial expansion, especially petrochemical, in the existing large industrial areas. Accordingly, new open areas should be developed near available resources.

The Board of Directors of the Lavaca-Navidad River Authority respectfully requests that funds be appropriated for the U. S. Army Corps of Engineers to resume maintenance of the authorized Red Bluff Channel and for commencement of studies for a more usable channel of approximately 12' X 125' dimension. Please be advised the Authority is willing to assist the Jackson County Navigation District, and the U. S. Army Corps of Engineers any way possible to promote this effort.

STATEMENT OF JACKSON COUNTY, TX, CHAMBER OF COMMERCE AND AGRICULTURE

Jackson County, along with much of Texas, has been experiencing economic hardship due to its historic dependence on the oil and gas and agriculture industries. However, unlike other areas of the State which are beginning to rebound through diversification, Jackson County has no other major industries which can help us to reverse the downward spiral caused by the decline in oil and gas exploration and production.

The Jackson County Chamber of Commerce and Agriculture has recently initiated an aggressive campaign to attract badly needed new industry to our county which can offer many outstanding resources. Lake Texana, located in the center of Jackson County, has a firm yield of 75,000 acre feet of fresh water per year (60,000,000) available for sale, with 93% uncommitted at the present time. Several large industrial sites with ready access to rail, highway, fresh water and petroleum pipelines are available. A large, willing and productive labor market and an exceptional lifestyle complete an attractive package for industries looking to relocate or expand with one very critical exception, accessible barge transportation.

Recently, two large petro-chemical firms expressed an interest in locating in Jackson County, but had to eliminate Jackson County from their final prospect list, due to their need for barge accessibility. Our industrial sites are located along the Lavaca River which is an authorized U.S. Army Corps of Engineers project known as the Red Bluff Channel. This channel is authorized for a depth of 6 feet and a width of 100 feet. The petro-chemical companies indicated a need for a channel with a minimum depth of 9 feet, and preferably 12 feet.

The Jackson County Chamber of Commerce respectfully requests your assistance in obtaining funds for the Corps of Engineers to resume maintenance dredging of the Red Bluff Channel and in obtaining authorization and funding for a deep draft study of the Lavaca River/Red Bluff Channel upstream to Lolita by the U.S. Army Corps of Engineers. The Chamber believes that expansion of the Red Bluff Channel to facilitate today's barge traffic requirements of 12 feet of depth and 125 feet of width would enable Jackson County to attract and retain industries which could provide vital jobs and help to expand and diversify our economic base.

We covet your favorable consideration of our efforts in this regard. Please let us know if we can provide any additional information or do anything futher in support of the Red Bluff Channel Project.

STATEMENT OF LARKIN T. THEDFORD, COUNTY JUDGE, JACKSON COUNTY, TX

From looking at the United States map you will see that Jackson County is actually a coastal county bordering on the Gulf of Mexico about half way between Houston and Corpus Christi, Texas. A tributary flowing into the Gulf of Mexico known as the Lavaca River empties into the bay that fronts the Aluminum Company of America at Point Comfort, Texas. Alcoa constantly ships from its operations to various parts of the world. Up the bay a short way on the Lavaca River, Formosa Plastics has just scheduled a 1.3 billion dollar expansion.

Several industrial sites in excess of three to four hundred acres per site with options already executed are located on the Lavaca River close to Formosa Plastics and these sites would have already been chosen and used for industrial purposes except that the Lavaca River is not deep enough nor wide enough at this particular time to handle heavy traffic. The U. S. Corps of Engineers has the Lavaca River under its jurisdiction and has previously dredged the river, the last time being in 1961. The river is supposed to maintain a six foot depth and be 100 feet wide. This is not so at this time due to the silting which has taken place since 1961.

I believe that there is now pending before your committee some appropriations for a feasibility study to see whether or not it would be feasible, based on all the circumstances and the industrial growth around that particular area, to deepen the Lavaca River to at least a 12 foot depth and a width of 125 feet. This seems to be the standard size along the Gulf Coast and the Intercoastal waterways.

The Lavaca River back during the Civil War days and even before was the main source of trade for the one or two towns that were located on the river. With the coming of the railroad, the waterways were not used, have not been maintained, and have become in a state of needed repair. Manufacturing companies and petrochemical companies are trying to locate and are locating on the Gulf Coast. With water transporation being a cheap method of travel and a reliable method, it has become very crucial and important that water traffic be maintained.

The Commissioners Court of Jackson County and Jackson County itself would like to strongly urge that your committee authorize the expenditure funds for this project. If necessary, and we know that money is short, we believe that the cutting of the budget for overseas operations in order to take care of this small matter would be more than amply justified. This would be of benefit to the United States in it's trade relations if we could locate these plants as well as helping our local economy.

STATEMENT OF CALHOUN COUNTY, TX, NAVIGATION DISTRICT

Recently, officials in Jackson County, Texas, began planning for the enlargement of the Red Bluff Channel up the Lavaca River from Lavaca Bay to Lolita, Texas. This enlargement would render this channel the same dimensions as the Gulf Intracoastal Waterway and make this a viable waterway for barge commerce.

Jackson County, Texas, wherein most of this project will take place, is in the unfortunate position of not currently having an industrial base from which to draw significant tax revenues and large scale employment opportunities. The enlargement of the Red Bluff Channel would provide the opportunity to reverse this shortfall. A commercially usable barge waterway, coupled with existing pristine industrial sites and existing highway, pipeline and rail transportation infrastructure will make Jackson County a prime candidate for the sighting of plants in the currently expanding petrochemical industry.

Additionally, the availability of large amounts of fresh water from Lake Texana in Jackson County makes the potential Jackson County industrial sites, which are adjacent to Red Bluff Channel, prime candidates for textile concerns.

Calhoun County, Texas, is the immediate county to the south of Jackson County. Some of this urgently needed project will be within Calhoun County. The Calhoun County Navigation District supports Jackson County's effort to enlarge the Red Bluff Channel. We believe that this project will enhance the State of Texas' and the United State's chances of successfully competing, in the global market, for additional industrial complexes. In addition, the potential industrial sites bordering Red Bluff Channel addressed above are in close proximity to the recently announced $ 1.7 Billion Formosa Plastics Group Ethane Cracker complex and could complement that project most favorably.

Senator, the State of Texas is an example to the nation that by pulling together we are extricating ourselves from our current economic dilemma. We in Calhoun County, in concert with this spirit of pulling together, join our immediate neighbors to the north and urge you to strongly support this Red Bluff Channel project.

SHINNECOCK INLET, NY

STATEMENT OF HON. GEORGE HOCHBRUECKNER, U.S. REPRESENTATIVE FROM NEW YORK

ACCOMPANIED BY:

RICKY LASTOFF, PILOT

DONNA SOLEAU, SECRETARY, CONCERNED WIVES OF SHINNECOCK FISHERMEN

Senator JOHNSTON. Next, I understand Congressman George Hochbrueckner's group is here. We are very pleased to have you, Congressman, outstanding and distinguished congressman from the State of New York.

Mr. Hochbrueckner. First, I would like to thank you for giving us the opportunity to come. I am delighted to speak to the chairman. We thank you for this opportunity. I have brought a prepared statement, which I will submit for the record. But what I would like to do is just summarize our concerns.

I am joined here today by some very special people. I am very pleased to say that at 5 this morning, a large group of people, fishermen and concerned wives of Shinnecock fishermen, jumped on a bus up in Long Island and drove down here so that they could share their concerns with the subcommittee. Also, I am delighted to say that we were joined on the steps of the Capitol by both Senators D'Amato and Moynihan, which shows the strong bipartisan support that our concern has.

The reason we are here with 12,000 signatures on petitions, and, of course, with the map, is I wanted to illustrate where our problem lies. The problem is with the Shinnecock Inlet on the eastern end of Long Island, which of course, is my district. The problem that we do have, of course, is that this inlet was authorized to be dredged back in 1960. In fact, the Army Corps has put together an extensive program and already spent $1 million designing the program to dredge the inlet as well as rebuild the jetties and provide a sand bypass and do all of those things that would make this a very navigable waterway. As it is, it has been a very dangerous one. In fact, in just the last 4 months alone, we have lost two boats and we have had three men die at that particular location. So, I am delighted to be here today in order to present the concerns we have.

In the budget this year, when it was presented by the administration, the money that was needed to kick off this project, which has been in planning for many years, was not there. So it is important that the legislature, the Congress, put the money in. In fact, I am also delighted to say that today, at a rally that we had, we were joined by a number of the White House staff who indicated concern for the project. So we are working all of the angles here. We are certainly very pleased to present our case to you.

One of the points, too, is that this is a very important economic program in that if we dredge this inlet properly, it will contribute $75 million to $88 million annually to the Long Island economy. Also, by the way, there is also an impact to other States. Because as it turns out, right now we have a co-op that does have 21 fishing boats in it. Several of those boats, in fact, were built in Louisiana and Alabama. It is clear that if we open this channel and make it navigable into the future, that clearly there will be an expansion of

the fishing fleet. There is no doubt in my mind that these boats will be purchased, most likely, from Louisiana and Alabama where they build very fine boats, as you know, Senator. We would love to use those ships.

Senator JOHNSTON. What is the cost of the dredging?

Mr. Hochbrueckner. The dredging itself is a multiyear program. This year we need $5.3 million to kick off the project.

Senator JOHNSTON. Is that the capability of the Corps?

Mr. Hochbrueckner. It is a several year program that will probably add up to about $12 million. The State of New York has already committed to $1.8 million, which is their piece of the requirement. So we need $5.3 million, minimum, this year in the fiscal year 1990 budget. Of course, the State of New York is already committed to $1.8 million.

So, Senator, at this point I would like to introduce Ricky Lastoff, who is the captain of a boat which sunk in the inlet last October 10, to express to you his experience in terms of the treacherous and dangerous nature of this inlet. Ricky?

Senator JOHNSTON. Is this your boat we see the picture of here?

STATEMENT OF RICKY LASTOFF

Mr. LASTOFF. Yes. I am the sacrificial lamb there. I am honored to speak for you today. I would like to inform you that you are now entering the Shinnecock Inlet. Please don your life jackets. I have called the Coast Guard for us. If they do not hear from us in 10 minutes, they will be to us in 15 minutes, providing you survive that long in 40 degree water. This is just an example that I have given you that is required procedure for entering and exiting the Shinnecock Inlet.

I have been chosen to speak for the 12,000-plus petitioners who are desperately seeking to restore the funds and complete the Army Corps of Engineers' Shinnecock project, because they barely survived their worst nightmare.

Senator JOHNSTON. You were 15 minutes in the water?

Mr. LASTOFF. We were 2 hours on the side of my boat. I had a wooden cabin on a 70-foot steel boat. I heard the side of the boat cracking. We were just laying in the lee side of the cabin waiting for the Coast Guard to pick us off. They could not come out with a Coast Guard boat because it was too rough, the conditions that day. We were picked up by rescue aircraft from Brooklyn.

Senator JOHNSTON. How deep is the channel in the deepest part now?

Mr. LASTOFF. There is not a channel. It is unbuoyed. Nobody would take the responsibility.

Senator JOHNSTON. How deep is it, the place you would traverse?

Mr. LASTOFF. My boat drew 10.5 feet of water, and I hit 6 out of 10 times exiting and entering the inlet. That one time I did not get off.

Senator JOHNSTON. It is not marked at all?

Mr. LASTOFF. Because of the shifting sand. I will continue. The property of the inlet, the responsibility of the inlet, is of the Federal Government. If we continue to allow traffic in it, a responsibility of maintaining a safe waterway lies squarely on your shoulders.

I own a 70-foot stern troller, *Evening Prayer*. On that night of October 10, as Congressman Hochbrueckner has pointed out, I attempted to enter the inlet. I used my radar and 12 years' experience. I proceeded through the 100-foot-wide snakelike channel that includes a 150-foot section of the channel that I must bump and churn my way over.

I came up a wave and lifted gently on the bottom. At this point, I lost my ability to maneuver, and nature was now in control of my boat. The next wave and strong wind proceeded to pick up the *Evening Prayer* and dump it onto the shoal, where 8-foot waves pounded us, eventually filling us full of water. As I mentioned before, the Coast Guard helicopter picked us up from Brooklyn.

No one should have to earn a living living with this fear. I humbly ask you, Senators, does it makes sense to omit funding to a project that the Federal Government has already spent $1 million on blueprints and feasibility studies? As Congressman Hochbrueckner has pointed out, the matching ratio is already approved by the county and State. Thank you for your time. Are there any questions, please ask me.

Senator JOHNSTON. No; I think we understand this very well. The problem is it is not in the budget. It is a new construction start. Congressman, you know the problem on those two. I am well aware of this problem. You have made an excellent presentation, but—if we are able to do it, it would be a great uphill climb. I urge you to talk to Congressman Tom Bevill in the House to make him aware of this. I think you have testified before Chairman Bevill over there.

It is a very clear need. It ought to be done. But again, it is a question of dollars, and it is also a question of the number of new starts. Because last year we had no new starts at all, as you know, due to budget problems. There were great projects, of which this is one, stacked up. There is a question of—we just have to draw the line and say no new starts anywhere, anyplace in the country. I hope we do not have to do that this year. If there are new starts, then certainly this is one we will look at very sympathetically, because I think you make a strong case.

Mr. Hochbrueckner. Senator, may I introduce Donna Solo who will also say a few words. She is a member of Concerned Wifes of the Shinnecock Fisherman.

STATEMENT OF DONNA SOLEAU

Mrs. SOLEAU. Thank you, George. I have in front of me an advance copy of this month's Offshore magazine. The cover story is on Shinnecock Inlet. It is appropriately entitled "Deadly Waters." The first line reads, "Wicked water all around, evil, wicked, mean and nasty. People die here."

Gentlemen, this is not sensationalized journalism. A copy of this article has been given to everyone here. Its author personally came to Shinnecock and was escorted through the inlet by the U.S. Coast Guard Station, Shinnecock. He came to see if the horror stories he had been hearing about this treacherous waterway were true. They are.

From September 5, 1988, to January 24, 1989, three men have died in Shinnecock Inlet as a direct result of its appalling condition. There has been tens of thousands of dollars worth of damage done to vessels and hundreds of thousands of dollars lost revenue to the State of New York. Some boats have been repaired and some replaced. But you cannot replace a human life. You cannot repair the void left on the hearts and minds of the wives, mothers, family, and friends that loved these men and women for many years to come.

On the afternoon of January 24, 1984, I arrived home to three messages on my answering machine. The first two said that another boat had gone down in the inlet. Knowing our boat was due back from a fishing trip, my thoughts raced to a very real nightmare that I experience all too often. Luckily, the third was from my husband. His message said it was the *Deborah Ann* that had capsized with three men on board, and only two had been recovered. Watching the two Coast Guard helicopters circling in the inlet was an emotional experience that cannot adequately be described. There was no sign of the sunken vessel, but I knew what they were searching for. They were looking for a body, the body of the third fisherman. The corpse they pulled that day from the icy waters of Shinnecock Inlet could have been my husband or my son.

The absence of updated economic figures led to the omission of this project. You now have the true facts and figures. You are aware of the catastrophic problems that we are faced with. Without this problem, it is inevitable that another disaster will take place. In its present hazardous condition, the Shinnecock Inlet is not only killing our multimillion dollar fishing industry, it is killing our fisherman. Thank you.

Senator JOHNSTON. Thank you very much. You all make a very strong case, as I say. We will do the dead-level best we can. I know you will help us, Congressman, over there to try to get money for water projects in general, because while this one is a particularly poignant question, there are great needs all over this country. We really need to meet these needs. This is basic infrastructure of the country. I am sure it not only has a good benefit/cost ratio in terms of dollars, but we have lives at stake here. So we will do the dead-level best we can. I know you will help us in the House to get the money to do the job.

Thank you very much, Congressman. Thank you, ladies and gentlemen for your excellent statements.

Mr. Hochbrueckner. Thank you very much, Senator. We appreciate your sensitivity and your time.

SUBMITTED STATEMENT FOR THE RECORD

Senator JOHNSTON. Without objection, the statement of Patrick Halpin, Suffolk County executive, will be made part of the record

[The statement follows:]

STATEMENT OF PATRICK G. HALPIN

MR. CHAIRMAN, I AM PLEASED TO HAVE THE OPPORTUNITY TO EXPRESS MY VIEWS, TO THE SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT, ON THE CRITICAL SITUATION AT LI'S SHINNECOCK INLET. AS THE COUNTY EXECUTIVE OF SUFFOLK COUNTY -- REPRESENTING 1.3 MILLION RESIDENTS IN THE LARGEST SUBURBAN COUNTY IN NEW YORK STATE - I APPRECIATE YOUR COOPERATION.

I ESPECIALLY WISH TO THANK, CONGRESSMAN GEORGE HOCHBRUECKNER FOR HIS LEADERSHIP IN THIS EFFORT AND CHAIRMAN BEVILL FOR CONSIDERING THIS URGENT MATTER.

DREDGING THE SHINNECOCK INLET IS A VITAL CONCERN TO ALL THE RESIDENTS OF SUFFOLK COUNTY, BECAUSE OUR COMMUNITY CAN NOT AFFORD TO WITNESS ANY MORE TRAGIC MANIFESTATIONS OF OUR FEDERAL GOVERNMENTS FAILURE TO FOLLOW THROUGH ON A PROJECT THAT HAS BEEN UNDERSTOOD AS DESPERATELY NEEDED FOR DECADES.

THIS INLET IS A VITAL PASSAGEWAY FOR BOTH COMMERCIAL AND RECREATIONAL BOATERS OF EASTERN LONG ISLAND. IT IS ALSO A ROUTINELY USED OCEAN ACCESS POINT FOR THREE COAST GUARD SEARCH AND RESCUE STATIONS IN THE AREA. AS THE ARMY CORP DREDGING PROJECT HAS BEEN DELAYED, DANGEROUS SAND DEPOSITS KNOWN AS SHOALS HAVE FORMED. THE NEGATIVE EFFECTS OF SHOALING HAVE RECENTLY BEEN EXPERIENCED THROUGH THE ACCIDENTAL LOSS OF LIFE AND PROPERTY.

THE CONSTRUCTION AND REHABILITATION PLANNED BY THE CORPS OF ENGINEERS WILL INCLUDE THE DREDGING OF AN ENTRANCE CHANNEL CONNECTING THE ATLANTIC OCEAN AND SHINNECOCK BAY; DREDGING OF AN INNER BAY CHANNEL TO THE LONG ISLAND INTERCOASTAL WATERWAY; REHABILITATION AND EXTENSION OF EXISTING JETTIES; AND CONSTRUCTION OF A FACILITY FOR SAND TRANSFER FROM THE EASTERN SIDE OF THE INLET TO THE WEST.

THE NEGATIVE ECONOMIC IMPACT THAT CONTINUED NEGLECT IS HAVING ON SUFFOLK COUNTY IS SEVERE. LOST FISHING TIME REVENUE IS ESTIMATED BY THE LATEST AVAILABLE SURVEY TO BE APPROXIMATELY 2.8 MILLION DOLLARS PER YEAR. MANY

LARGER VESSELS ARE NO LONGER OPERATING IN THE INLET AS A DIRECT RESULT OF THE SHOAL PROBLEM, CREATING A LOSS OF AN ADDITIONAL 3.5 MILLION DOLLARS. FURTHERMORE, THE ESTIMATED LOSS ASSOCIATED WITH WHAT IS CALLED TRANSIENT FISHING VESSELS IS CALCULATED TO BE $5 MILLION. AND FINALLY, THE VALUE OF FISH LOST DUE TO CONDITIONS WHICH FORCE FISHERMEN TO MISS MARKET IS OVER $800,000. USING A STANDARD MULTIPLIER DEVELOPED BY CORNELL UNIVERSITY, IT IS ESTIMATED THAT 40 MILLION DOLLARS WOULD BE GENERATED WITHIN THE IMMEDIATE LOCAL ECONOMY, IF THE INLET WERE DREDGED.

TO SUFFOLK'S COMMERCIAL FISHERMEN, SHINNECOCK REPRESENTS A BITTER IRONY WHEN YOU CONSIDER THAT THE INLET IS WELL DEVELOPED WITH COMMERCIAL FISHING INFRASTRUCTURE INCLUDING ADEQUATE DOCK SPACE, PACKING FACILITIES, AND DOCK SIDE SERVICES. INDEED, ALL THE INGREDIENTS ARE IN PLACE FOR A PROSPEROUS ENTERPRISE EXCEPT AN EASILY NAVIGABLE INLET.

BUT MUCH MORE COMPELLING THEN EXTRAPOLATED ECONOMIC DATA, IS THE HISTORY OF TRAGEDY THAT HAS OCCURRED IN THE INLET. IN THE PAST FIVE MONTHS ALONE, THREE LIVES AND FOUR VESSELS HAVE BEEN LOST.

IT SHOULD BE NOTED THAT THE TWO MOST RECENT SERIOUS ACCIDENTS INVOLVED COMMERCIAL VESSELS, OPERATED BY EXPERIENCED SEAMEN.

OUR PLEASURE BOATERS ARE, OF COURSE, JUST AS VULNERABLE. WITH AFFORDABLE DOCK SPACE ON LONG ISLAND AT A PREMIUM, THERE IS LITTLE REASON TO BELIEVE THAT PLEASURE CRAFT TRAFFIC IN THE INLET THIS SUMMER WILL BE SIGNIFICANTLY REDUCED.

THE 1988 SEASON ENDED ON A PROFOUNDLY SAD NOTE, AS TWO RECREATIONAL BOATERS DIED IN THE INLET WHEN THEIR BOAT CAPSIZED ON LABOR DAY WEEKEND.

SUFFOLK COUNTY DOES NOT SIMPLY TURN TO OTHERS FOR HELP IN THIS OR ANY CRISIS. OUR COUNTY GOVERNMENT SPENT $700,000 LAST YEAR FOR AN EMERGENCY DREDGING OPERATION. OUR EFFORT, WHILE HELPFUL, IS BUT A BAND-AID APPLIED TO A SERIOUSLY BLEEDING WOUND. IT IS NOT ENOUGH.

THE COUNTY MADE THIS INITIAL EFFORT WITH THE CLEAR UNDERSTANDING THAT THE FEDERAL GOVERNMENT WOULD COMPLETE ITS OBLIGATION AND FUND THE AUTHORIZED DREDGING OF THE INLET.

IN FACT, THIS EMERGENCY OPERATION MARKED THE FIRST TIME SUFFOLK COUNTY HAS EVER FUNDED AN OCEAN DREDGING PROJECT. CLEARLY, A FEDERAL RESPONSIBILITY.

DESPITE ALL OF OUR EFFORTS AND THE AVAILABILITY COMPELLING EVIDENCE TO DREDGE THE SHINNECOCK INLET, THE PRESIDENT'S FY '90 BUDGET FAILED TO PROVIDE FUNDS FOR THE OPERATION. IN DEFENDING THIS DECISION, THE ADMINISTRATION CITED THE PROJECTS "LOW RATE OF ECONOMIC RETURN".

CLEARLY, THE ADMINISTRATION IS DEMONSTRATING A CALLOUS INDIFFERENCE TO THE SAFETY AND WELFARE OF THE SHINNECOCK COMMUNITY WHEN IT APPLIES A DISTANT AND DISPUTABLE COST BENEFIT ANALYSIS FORMULA IN CONSIDERING A PROJECT THAT WOULD ALLEVIATE A CRISIS WHERE HUMAN LIVES ARE BEING LOST.

TO THE HARDWORKING PEOPLE OF SHINNECOCK WHO GAIN THEIR LIVELIHOOD FROM THE SEA, THE AUTHORIZATION OF THIS PROJECT SHOWED THEM THAT THE FEDERAL GOVERNMENT UNDERSTOOD THEIR PROBLEM AND WAS PREPARED TO MEET ITS OBLIGATION. THEREFORE, TO NOW NOT APPROPRIATE FUNDS FOR THE DREDGING OF THE SHINNECOCK INLET WOULD BE TO PLAY A CRUEL HOAX ON THESE PEOPLE.

IN CONCLUSION, I ASK THAT THE SUBCOMMITTEE APPROVE THE 9 MILLION DOLLARS NECESSARY TO BEGIN THE DREDGING OPERATION. SUFFOLK COUNTY CAN NO LONGER TOLERATE THE IMPENDING DAMAGE THAT WILL OCCUR IF THIS PROJECT IS FURTHER PROLONGED. WITH THE LIVELIHOOD AND WELL BEING OF SUFFOLK COUNTY RESIDENTS AT STAKE, IT IS IMPERATIVE THAT THE FEDERAL GOVERNMENT MOVE AHEAD WITH A COMPREHENSIVE PROGRAM OF DREDGING AND JETTY WORK AT THE SHINNECOCK INLET.

THANK YOU FOR YOUR CONSIDERATION.

STATEMENT OF THOMAS F. DONNELLY, EXECUTIVE VICE PRESIDENT, NATIONAL WATER RESOURCES ASSOCIATION

Senator JOHNSTON. Next, we want to welcome Tom Donnelly, who is executive vice president of the National Water Resources Association, who will speak on a range of reclamation projects. I am glad to welcome you, Mr. Donnelly.

Mr. DONNELLY. Thank you, Mr. Chairman.

I appear before this committee today to express the association's concerns and interest in the President's fiscal year 1990 budget request. While we are cognizant of the tremendous budget deficit, we believe there are several areas where adjustments can and should be made to increase the productivity of the Bureau's programs and result in a long-term savings to the Federal Government.

Two years ago, the Department of the Interior proposed a construction program policy change. The Department undertook funding of so-called high-priority projects at the expense of many ongoing projects. Many Members of Congress and project sponsors were told by the Secretary of the Interior to be patient. They were told their projects would be completed in a cost-efficient and timely manner. The plan, as described to the "have nots," called for a constant level of construction funding over time, and as the high-priority projects were completed, the delayed projects would be brought on line and funded to their maximum annual construction capacity. The reality of the proposed plan is quite different from the one the Secretary described at the time. The first project sponsors to face this cruel reality are the long-suffering sponsors of the Garrison diversion project in North Dakota.

In his inaugural address, President Bush described, in my opinion, what this Nation should symbolize to its citizens and to the world. He said, "Great nations, like great men, must keep their word. When America says something, America means it, whether a treaty or an agreement or a vow made on marble steps."

We urge this committee to show the citizens of North Dakota that America does, in fact, honor its commitments. We are asking that $48 million of the $68 million decrease in the construction program of the Bureau of Reclamation be reinstated and committed to the Garrison diversion project.

In the fiscal year 1988 budget——

Senator JOHNSTON. Let me just say, Mr. Donnelly, we are here to do everything we can for Garrison. Senator Burdick is a member of this subcommittee and very interested in it. Again, our problem is money.

Mr. DONNELLY. I understand that.

Senator JOHNSTON. We need more money for all of these projects. But we are well aware of your concerns. Not to interrupt you, but we are going to do the best we can with that. I think Senator Burdick wants about another $40 million for Garrison.

Mr. DONNELLY. I understand your position. We are in the same position. We are doing the best we can.

In the fiscal year 1990 budget proposal for the Bureau of Reclamation, the Bureau requested the establishment of a reclamation

operation and maintenance revolving fund. The NWRA strongly supports this concept and urges its adoption by this committee.

The Bureau of Reclamation project water users are required by law to reimburse the Federal Government for operation and maintenance expenditures; therefore, this proposal would have little or no impact on the U.S. Treasury.

In recent years, the Office of Management and Budget has recommended annual budgets that failed to provide the level of funding required to adequately operate and maintain existing projects. Severe fiscal constraints have caused important Bureau maintenance items to be deferred.

One example is 2 years ago a transformer at Folsom Dam exploded, contaminating a large area with toxic PCB's. The cleanup and replacement costs the Federal Government, and ultimately to the water users, were $300,000. This unit had been designated years earlier for replacement at a cost of $25,000. This is but one example of what has happened and what is happening now as a result of the past penny-wise, pound-foolish mentality of the Office of Management and Budget.

It is my understanding that the Department will soon send legislation to Congress implementing this proposal. The National Water Resources Association strongly supports this concept; however, we will desire to see the details of the implementing legislation before we give it our unqualified support.

PREPARED STATEMENT

Mr. Chairman, I have included in my testimony several items that are important to our association and Western water users. I would ask at this time that my testimony be included in its entirety in the record.

Senator JOHNSTON. It will be included.

Mr. DONNELLY. Thank you, Mr. Chairman.

Senator JOHNSTON. Thank you, Mr. Donnelly. We will do the dead-level best we can. I wish we had your money.

Mr. DONNELLY. I know you will. You have always been kind to us.

[The statement follows:]

STATEMENT OF THOMAS F. DONNELLY

I am Thomas F. Donnelly, Executive Vice President of the National Water Resources Association, I appear before this Committee today to express the Association's concerns and interests in the President's Fiscal Year 1990 Budget Request.

The National Water Resources Association (NWRA) is a nonprofit federation of associations and individuals dedicated to the conservation, enhancement, and efficient management of our Nation's most precious natural resource, WATER. The NWRA is the oldest and most active national association concerned with water resources policy and development. Its strength is a reflection of the tremendous "grassroots" participation it has generated on virtually every national issue affecting western water conservation, management, and development.

While we are cognizant of the tremendous budget deficit, we believe there are several areas where adjustments can and should be made that will increase the productivity of the Bureau's programs and result in a long-term savings to the Federal government.

U.S. BUREAU OF RECLAMATION

CONSTRUCTION- Two years ago, the Department of Interior proposed a construction program policy change. The Department undertook funding of so-called "high priority" projects at the expense of many ongoing projects. Many members of Congress and project sponsors were told by the Secretary of Interior to be patient. They were told their projects would be completed in a cost efficient and timely manner. The plan, as described to the "have nots," called for a constant level of construction funding over time and as the "high priority" projects were completed, the delayed projects would be brought on line and funded to their maximum annual construction capacity. The reality of the proposed plan is quite different from the one the Secretary described at that time. The first project sponsors to face this cruel reality are the long-suffering sponsors of the Garrison Diversion Project in North Dakota.

In his Inaugural Address, President Bush described, in my opinion, what this Nation should symbolize to it citizens and the World. He said, "Great nations like great men must keep their word. When America says something, America means it, whether a treaty or an agreement or a vow made on marble steps."

The Garrison Diversion Project represents a trail of broken Federal promises and commitments. I think it is important that this Committee understands the plight of North Dakota's Garrison Project.

CHRONOLOGY OF BROKEN PROMISES
(Garrison Diversion Project, ND)

As compensation to the State of North Dakota for its acceptance of the Pick-Sloan project and the consequent flooding of 550,000 acres of rich bottom land used for reservoir purposes, the 1944 Pick-Sloan Act authorized slightly over one million acres of irrigation in North Dakota as part of the program. It was expected that construction of the irrigation portion of the project would occur concurrently with the construction of the dams and reservoirs. Land was taken and the dams and reservoirs constructed, but North Dakota received no authorization from the Congress for the construction of the irrigation project until 21 years later.

When construction of the Garrison Diversion Unit was finally authorized in 1965, only 250,000 acres of irrigated land was approved, a reduction of over 75 percent from the1944 Pick-Sloan promise.

The Garrison Project was included in the Carter Administration water project "hit list" and the Department of Interior's support for the project evaporated in spite of statutory obligations and contracts with the State of North Dakota.

The Secretary of Interior compromised a lawsuit brought by the Audubon Society by agreeing to halt the project. His decision was finally overturned by a court decision in a lawsuit brought by the State of North Dakota.

Following a report by the International Joint Commission under the 1909 Boundary Waters Treaty, the Federal government agreed to suspend any activity leading to irrigation in the Hudson Bay Watershed and finally agreed to proceed with only an 85,000-acre project entirely within the Missouri River Watershed.

The United States House of Representatives for four consecutive years refused to pass an appropriation for the Garrison Diversion Project in spite of the 1944 law and contracts with the State of North Dakota, which resulted in only minimal progress from modest appropriations obtained through conference committee action.

In 1984 the Congress stopped the Project entirely while a congressionally mandated special commission studied the Project and made recommendations for radical change and further reduction in the irrigation acreage to 113,000 acres plus 17,000 acres on Indian Reservations. In addition, the report recommended de-authorization of several essential reservoirs and substituing costly and inefficient canals and water holding areas.

In 1986 the Administration proposed an FY budget of $2.5 million, which would thereby mothball the project with a promise to resume the project with major appropriations beginning in FY-90 and thereafter implement an accelerated construction program.

As we consider the FY-90 budget we again see the worth of the 1986 promise made to the North Dakota Congressional Delegation and the project sponsors by the then Secretary of Interior, Donald P. Hodel.

We urge this committee to show the citizens of North Dakota that America does, in fact, honor its commitments. We are asking that $48 million of the $68 million decrease in the Construction Program of the Bureau of Reclamation be reinstated and commited to the Garrison Diversion Project.

OMB SEPARABLE ELEMENTS B/C ANALYSIS- The Office of Management and Budget is currently applying project evaluation criteria established for the evaluation of separable elements of Corps of Engineers projects in H.R. 6 to Bureau of Reclamation projects. Very few of the Bureau's projects lend themselves to this type of evaluation. It would be like evaluating separate features of a 747 and deciding that the wings were not justified on a benefit/cost basis.

This type of evaluation was recently used by the OMB to zero-out the Davis Creek Dam feature of the North Loup Division (Pick-Sloan), after the Congress has specifically designated funding for the Davis Creek Dam in last year's appropriations bill.

We would urge the Committee to address this issue in its deliberations on the FY-90 budget.

OPERATIONS AND MAINTENANCE- In the FY-90 budet proposal for the Bureau of Reclamation, the Bureau requested the establishment of a Reclamation Operation and Maintenance (OM&R) Revolving Fund. The National Water Resources Association strongly supports this concept and urges its adoption by this committee.

Bureau of Reclamation project water users are required by law to reimburse the Federal Government for operation and maintenance expenditures; therefore, this proposal would have little or no impact on the U.S. Treasury.

In recent years, the Office of Management and Budget has recommended annual budgets that failed to provide the level of funding required to adequately operate and maintain existing projects. Severe fiscal constraints have caused important Bureau maintenance items to be deferred. During initial periods of austerity, the process of prioritizing work and deciding which items are to be deferred is rather simple. A judgement is made on the basis of the consequences for not accomplishing the identified work. After several cycles of this decision and prioritization process, the available fiscal resources gradually come to bear on crisis situations and the Bureau finds itself responding to emergency and breakdown maintenance.

The following are but a few examples of how the Bureau has had to deal with deferred maintenance associated with constrained budget appropriations:

- o Replace Folsom Dam transformer- Two years ago a transformer at Folsom Dam exploded contaminating a large area with toxic PCBs. The cleanup and replacement cost the Federal government over $300,000. The unit had been designated for replacement several years earlier at a cost of $25,000.
- o Rewind Keswick Powerplant generating units- Keswick powerplant is over 35 years old and has experienced a failure in one of its generating units. Maintenance tests indicate deterioration of generator insulation in the other units. A rewind program could have prevented a failure and reduced the long outage time and subsequent loss of generating revenue.
- o Replace voltage regulators at Folsom Powerplant- Due to the age of the existing equipment, repair parts and technical support are unavailable from the original contractor. The existing voltage regulators are contributing to the instability of the electrical system and the plant is being operated at reduced efficiency.
- o Rehabilitate inundation damage and maintain the Middle Rio Grande Project Low Flow Channel- These activities are required to reestablish the system for the conservation and conveyance of water to meet commitments to Texas and Mexico.
- o Replace a PCB-filled station service transformer at the O'Neil Pump/Generating Plant. Timely replacement of PCB-filled transformers is required to prevent the costs of cleanup and contamination which would result from either leaks or a major failure.

These are but a few examples of what has happened and is happening now as a result of the "penny wise, pound foolish" mentality of the Office of Management and Budget.

It is my understanding that the Department will soon send legislation to Congress implementing this proposal. The National Water Resources Association strongly supports this concept. However, we will desire to see the details of the implementing legislation before we give it our unqualified support.

ATMOSPHERIC WATER RESOURCES MANAGEMENT PROGRAM- Last year and again in the President's proposed Fiscal Year 1990 budget, funding for the Bureau of Reclamation's Atmospheric Water Resources Management Program has been omitted.

Weather modification represents one of the most feasible means of increasing water supplies in many regions of the United States. To date, eleven western states have indicated their intent to perform weather modification programs with the Bureau of Reclamation.

The Bureau of Reclamation has established expertise, and has been a leader, in the science of weather modification for some time. That expertise is consistent with the new goals of the Bureau of Reclamation to better manage existing water projects to provide more water supplies.

Benefits of weather modification go beyond water supply, to include increased hydroelectric power generation and improved water quality. Consequently, there is an urgent need to continue to extend and transfer this important technology from the Bureau of Reclamation to the states and water suppliers. Weather modification is clearly consistent with the Association's goal of enhancing existing water and power resources.

For example, the long-term supply of the Colorado River is over-committed. The Colorado River Basin Project Act of 1968 represents weather modification as one of the most feasible means of increasing water supplies.

We urge the Committee to reinstate funding for this important program in the amount of $4.2 million for FY-90.

COLORADO RIVER SALINITY CONTROL- The Colorado River provides important water supplies for 17 million Americans in the seven basin states of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming. These people live in the most arid portion of the United States and rely heavily upon the Colorado River for municipal and industrial water supplies, as well as for irrigation for 1.5 million acres of prime agricultural land. In addition, the Colorado River supplies water for half a million people and half a million acres of irrigated farm lands in the Republic of Mexico.

The seven Colorado River Basin states and their water users have been working with the Congress, the Administration and the courts for many years to assure a fair and effective allocation of the river's water supply. However, over the past decade, salinity levels in the Colorado have become a major problem. Without implementation of salinity control measures, Colorado River salinity levels are projected to increase to 1,200 mg/L by the year 2010. The economic damages currently experienced by municipal, industrial and agricultural users of Colorado River water in the United States alone amount to about $100 million per year and are expected to double by the end of the century.

In 1974, Congress enacted the Colorado River Basin Salinity Control Act (PL 93-320) to implement a 1973 agreement between Mexico and the United States for controlling the salinity of the Colorado River within the United States. The seven Colorado River Basin states subsequently adopted, and EPA approved, numeric salinity criteria for the river and a plan for implementing salinity control measures to maintain that criteria, while the basin states continue to develop their respective shares of Colorado River water. In 1984, PL 93-320 was amended to provide additional salinity control activities including a new on-farm salinity control program by the Department of Agriculture as well as a larger percentage of non-Federal cost sharing so that the numeric criteria can be met in a timely and effective manner.

The President's proposed FY-90 budget for the Colorado River Basin Salinity Control program provides $10.7 million for construction and $1.235 million for plan formulation. The Basin states have evaluated the Federal funding needs of the program and have concluded that the proposed total funding of $11.935 million is inadequate to ensure that future violations of the water quality standards for salinity and further salinity pollution will not occur.

The seven Colorado River Basin states, acting through the Colorado River Basin Salinity Control Forum, have concluded that the construction schedule for the Department of Interior's salinity control units outlined in the state-adopted and federally-approved plan of implementation for maintaining the river's salinity standards necessitates a FY-90 construction appropriation of $18.05 million.

We would urge the Committee to support the level of funding for the Colorado River Basin Salinity Control Program as recommended by the Colorado River Basin Salinity Control Forum -- $19,550,000.

WATER SUPPLY DATA ACQUISITION- Prudent management of surface water in the western United States depends, in large measure, on water supply forecasts made cooperatively by the Department of Agriculture's Soil Conservation Service, the Department of Interior's Geological Survey, and the National Oceanic and Atmospheric Administration's National Weather Service; and on supporting data collection and analysis by those agencies by both manual and automated means from remote locations. These services provide a vital tool for flood control, river regulation, water supply, power generation, and other multiple use purposes of Federal reservoirs.

The Department of Agriculture's Soil Conservation Service administers a highly efficient and cost-effective cooperative Snow Survey and Water Supply Forecast Program which minimizes duplication and uses the latest advances in modern technology for the benefit of water users throughout the West.

The Department of Interior's Geological Survey measures and catalogues much of the available data defining the nation's surface and groundwater supplies needed to operate Federal and many state and local water supply systems. It is a highly professional technical and scientific organization on which water supply managers throughout the country have relied for many years.

The National Oceanic and Atmospheric Administration operates several satellite systems that provide communication as well as remote sensing functions vital to the health and safety of the general public as well as the management of water resources.

There continues to be persistent pressure to reduce the role of the Federal government in the area of hydrological data collection and weather forecasting. We believe that it is in the best interest of the country and in particular the managers and users of the nation's limited water resources that these three Federal agencies continue to perform these functions effectively.

We, therefore, urge the Committee to fund those of the aforementioned programs within its jurisdiction at a level that allows for efficient operation of this well coordinated program.

SMALL PROJECTS PROGRAM- The Small Reclamation Projects Act (PL 84-984) as amended and the Distribution System Act (PL 84-130) as amended provide models for nationwide programs which can effectively give urgently needed assistance to State and local agencies for the construction of new multi-purpose water resource projects; for the rehabilitation of similar already constructed projects; and for the meeting of modern needs and conditions, including water, energy and environmental conservation, water quality control, and supplemental supplies to stabilize depleting groundwater basins.

Over the past few years, the level of funding for these important programs has continually decreased. These programs embody all the elements of quality water resources development: cost-sharing, conservation, and water management effeciency. We urge the Committee to maintain a relatively constant level of funding for these valuable programs of approximately $50 million annually.

GROUNDWATER RECHARGE DEMONSTRATION PROJECT- The Groundwater Recharge Demonstration Project is a product of the High Plains States Groundwater Demonstration Program Act of 1983 (PL 93-434). This Program is important to the future of groundwater management. It will allow the Federal government and states to gain important knowledge of groundwater recharge, and understand its impact on replenishing our aquifers. We are supportive of the President's proposed funding level for this program and encourage the Committee to continue its support for the Groundwater Recharge Demonstration Project.

PREPARED STATEMENT SUBMITTED FOR THE RECORD

Senator JOHNSTON. The subcommittee has received a statement from Ed Osann of the National Wildlife Federation which, without objection, will be incorporated in the record at this point.

[The statement follows:]

STATEMENT OF EDWARD R. OSANN, DIRECTOR, WATER RESOURCES PROGRAM, NATIONAL WILDLIFE FEDERATION

U.S. Army Corps of Engineers

Redirection of the Corps' Mission

The Corps of Engineers should make fuller use its substantial authority and responsibility to increase opportunities for public recreation, to enhance environmental quality, and to mitigate damages to fish and wildlife habitat in areas affected by the construction and operation of Corps projects.

Furthermore, recent studies have highlighted critical problems with the Superfund cleanup program, including overreliance on contractors and a resulting lack of in-house biological, technical, and other expertise at the U.S. Environmental Protection Agency. The Corps of Engineers has responsibility and abilities in civil engineering and contract administration that should be used to assist EPA in the cleanup of many of America's polluted waterways and Superfund sites. The Corps, in cooperation with EPA, should be provided with the funds necessary to implement environmentally sound plans for the removal and disposal of contaminated sediments from rivers and harbors and the permanent cleanup of such areas.

Regulatory Program

A primary concern of NWF is the Corps' administration of the Clean Water Act's Section 404 wetlands protection program. The Corps has been criticized by many observers, including a recent GAO report (GAO/RCED-88-110 Wetlands), for inadequately using its authority under Section 404 to protect wetlands. NWF has long advocated establishment of a no--net-loss policy for this nation's wetlands conservation efforts. Recently, President Bush and the National Wetlands Policy Forum, a group including conservation groups, members of state and local governments, and the 404-regulated business community, joined NWF in supporting this goal. If the nation is to have any chance of achieving this goal, the Corps must improve its Section 404 regulatory program.

The GAO report conclusions and NWF agree that the Corps must make a number of substantial policy changes to better administer its 404 responsibilities, such as delineating wetland boundaries more broadly, considering cumulative impacts of wetlands decisions, requiring permit applicants to more rigorously consider practicable alternatives to development activities in wetlands, monitoring and enforcing wetland permit conditions more vigorously, and establishing a data base to enable the Corps to determine the effectiveness of the program for conserving wetlands.

To implement these changes, the Corps will need substantial new funding in FY 1990. Excluding bridge administration funding from the Coast Guard, the Administration is requesting an approximate $5 million increase above the FY 1989 level for the regulatory program. This would bring the program total to $65.3 million. To improve the Corps' administration of the Section 404 program, especially its monitoring and enforcement of permit conditions, NWF supports the Administration request.

Further, we recommend adding $1 million (for a program total of $66.3 million) for development of a data base to enable the Corps to determine the effectiveness of its regulatory efforts. The agency currently has no way of accounting for the amount and value of wetlands acreage lost or protected through its administration of the program. The GAO report recommends, and NWF agrees, that this type of record keeping system must be established. NWF recommends the Subcommittee include report language directing the Corps to use the additional funding to establish the new data base system.

Mitigation for fish and wildlife losses from Federal water projects

The Water Resources Development Act provided new authority and responsibilities to the Secretary of the Army to mitigate losses to fish and wildlife habitat and to enhance environmental quality. The Civil Works Budget Request for Fiscal Year 1990, however, fails to ask for appropriations to carry out the authorized mitigation activities. For example, Section 704 provided that a study of the U.S. Army Corps of Engineer's capability to conserve fish and wildlife be completed and transmitted to Congress within 30 months of enactment of P.L. 99-662. The same section authorized the Secretary to construct modified habitats for fish and wildlife. None of these

authorized activities has been authorized. Section 1135 authorized the modification of existing project structures or operations for environmental improvements. The Secretary has failed to spend appropriated funds on the restoration of the Kissimmee River in Florida, one of the most beneficial of the thirty-two proposed modifications.

The Federation's members are especially concerned with the lack of funding for several fish and wildlife mitigation projects specifically authorized in §601 of WRDA. Delegates to our annual meeting this year passed an emergency resolution urging Congress to fund the acquisition of 88,000 acres of flood plain forest and bottomland hardwood to mitigate for habitat losses resulting from the construction of the Tennessee-Tombigbee Waterway.

Richard B. Russell Dam, Georgia and South Carolina

We oppose further commitment of funds to install pumped storage turbines unless fish protection measures have been designed and tested in consultation with state and federal fish and wildlife agencies. The installation would be a waste of money because a Federal court has ordered the Corps not to operate the reversible turbines until operations can be shown not to harm the fishery.

Grays Harbor and Chehalis River, Washington

Dredging and disposal of dredged material for the proposed project would harm this highly productive estuary and important Dungenes Crab fishery. The deeper harbor and channel would generate only marginal economic returns and dredging and bridge replacement in the upper reaches would currently benefit only one user. The Corps should evaluate a modified alternative that does not require replacement of a major railroad bridge and that would result in less dredged material to dispose of in environmentally safe sites.

Bureau of Reclamation

Central Utah Project-Colorado River Storage Project

The Bureau of Reclamation's FY 1990 Budget request for construction of the Bonneville Unit of the Central Utah Project is $116,170,000. The request for "Section 8" recreation and fish and wildlife expenditures for the CRSP is $28,271,000 (with $19,154,000 allocated to the Bonneville Unit of CUP). As the Committee knows, the Bonneville Unit and the CRSP are currently under intensive review by the House Interior Committee and the Senate Energy and Natural Resources Committee for a possible major restructuring and an authorization ceiling increase, that in any event is necessary for project completion. Several major issues bear on this appropriation request.

Irrigation and Drainage. The budget request correctly includes no funding for the separable features of the Bonneville Unit's Irrigation and Drainage system. Much of the testimony before the authorizing committees last year indicated that the I & D System would be extremely costly, environmentally damaging, and of little value from a financial or economic standpoint. The projected federal irrigationsubsidy is nearly $4,000 per acre; the farmer's "ability to repay" capital costs (after O & M) has been set at only $1.33/acre/year or three-one hundredths of one percent. A portion of the projected irrigation would be for surplus crops, already heavily price supported and subject to major set-aside programs. Recognizing these facts, the authorizing committees have instructed proponents to find alternative financing. We strongly agree that no funds should be included in the FY 1990 appropriation for Bonneville Unit Irrigation and Drainage.

CRSP Fish and Wildlife Mitigation/Payments to Strawberry Water Users. While the FY 1990 budget contemplates a significant increase, long sought by environmental organizations, for Section 8 fish and wildlife mitigation and recreation funding, recent efforts by Utah Senator Jake Garn threaten to postpone yet again the planned mitigation. The mitigation projects were specifically directed in the Committee Report (H. Rept. 100-915) accompanying P.L. 100-563, enacted last year. The mitigation package was a central element of a compromise CRSP ceiling increase of $45.5 million, that was passed in absence of comprehensive reauthorization legislation. Through a last minute amendment to H.R. 3408, Senator Garn directed payment of the first $15 million of FY 1990 Section 8 funds to the Strawberry Water Users Association for compensation for surface rights on 55,000 acres of Strawberry Valley Reclamation Project lands sought for restoration that have been badly damaged by the Association's mismanagement. We support the restoration of the lands. However, if additional funds are not found to continue the promised fish and wildlife and recreation mitigation, we believe Senator Garn will be breaking faith with the

essential agreement last year that allowed the Bonneville Unit construction to continue. This is especially disturbing, considering the circumstances surrounding the decision to pay what appears to be an extraordinary amount to the Strawberry Water Users for the rights involved. The Bureau of Reclamation had appraised the rights at $2.5 million in June of 1987, and we find no reasonable explanation why the value could have ballooned six times in one year.

We urge the Committee to direct the Bureau's Section 8 expenditures to those projects identified in the Bureau's budget and in H. Rept. 100-915. If additional funds are needed to compensate the Strawberry Water Users Association, these funds should be redirected from the Bonneville Unit's construction budget or elsewhere. The construction funding history of the Bonneville Unit has been one of constantly deferring mitigation. With about $1 billion already spent for Bonneville Unit construction, the Director of the Bureau's Upper Colorado Region admitted last year that only some $10 million in section 8 expenditures had been made for the project. We hope the Committee will not allow further deferrals of mitigation to continue and will take steps to implement the position that was agreed to last year.

Provo River/Construction of Jordanelle Dam. The Committee should be aware that late last year it became apparent that sufficient water may not exist in the Provo River to meet existing water rights and instream flow commitments and to fill the proposed Jordanelle Dam, which is currently under construction. Other problems have also recently surfaced regarding toxic waste deposits which may affect the water quality of the proposed reservoir. We would urge the Committee to carefully review this situation before any further funds are expended on the dam project. It would constitute a terrible waste of taxpayer dollars to construct this project and find that its utility is seriously limited.

Department of Interior Inspector General's Audit Report. In February of last year, the Interior Department's Inspector General released an audit report entitled "Review of the Financial Management of the Colorado River Storage Project, Bureau of Reclamation" (W-WS-BOR-09-86). This report identified $108,883,000 of improperly included deferred projects and general legislation costs in cost-ceiling calculations involving the Central Utah Project. These errors call into question the current status of the authorized cost-ceiling for CUP. We recommend that the Committee review this report in cooperation with the authorizing committee, and seek to determine precisely what is the current authorized cost-ceiling in order to determine if the budget FY 1990 budget request falls within the authorized ceiling.

Prairie Bend Unit, Nebraska, and Lake Andes-Wagner Unit, South Dakota

We concur with the Administration's decision not to request funds for further studies or designs for these costly projects. The benefits are overestimated. The cost per acre is several times what the lands would be worth after the projects are built: for example, the cost per-acre for the Lake Andes-Wagner Unit is estimated to be $3,983 per-acre, at least five times the value of irrigated land in the area. Moreover, the provision of irrigation water would increase the production of surplus crops, raising the costs of the U.S. Department of Agriculture's price support program.

The Bureau of Reclamation's studies for the Prairie Bend Unit have focused on stabilizing groundwater levels by building another dam and reservoir and diverting more than a third of the remaining flows of the Platte River. The project would help some farmers but harm others who have banded together as Save Our Land Organization (SOLO) to oppose the proposed project. Federal efforts should instead protect and enhance the outstanding natural values of the Platte River Basin.

The Platte is a major stopover for millions of migratory birds, including the sandhill crane and the endangered whooping crane. The Bureau's Budget Justification claims that "habitat maintenance and enhancement will be accomplished through augmenting low streamflow by storing excess river flows in a 250,000-acre reservoir...." (p. 84) This proposal is counterproductive: excess flows are what created and maintained the cleared sandbars and shores during past centuries. Federal expenditures of nearly $400 million on the Prairie Bend Unit would harm, not help maintain this vital habitat.

Federal Energy Regulatory Commission

Budget for Environmental Reviews.

While the Commission's FY 1990 Budget includes a $1.98 million increase for its total hydroelectric licensing program including an unspecified amount for environmental reviews, we believe that the proposed Commission's budget will fall far short of meeting the environmental

review needs in the coming year. The likely results of the shortfall will be major, unnecessary delays in completing hundreds of upcoming licensing and relicensing proceedings over the next few years.

NWF strongly recommends that the Committee provide an increase of $5,000,000 for the Commission's environmental reviews for hydroelectric projects. This would allow the FERC to begin work on a number of environmental reviews in basins with multiple licensing and relicensing proceedings before the Commission immediately and in the near future. FERC is now facing an unprecedented relicensing workload (some 200 between now and the end of 1993) for many of the older hydroelectric projects in the country. In addition, the Commission is aggressively pursuing a large number of unlicensed projects for new licenses. This is on top of the Commission's plan to complete action on more than 100 new capacity licenses and to begin work on some 67 new capacity applications during FY 1990.

The FERC's budget acknowledges that many of the upcoming licensings and relicensings are much more complex than has recently been the case and involve necessary basin-wide studies to meet statutory requirements. The Commission notes that many more of these projects will require Environmental Impact Statements than projects in the past. The Courts have also foreshadowed this likelihood, having ruled recently in a number of cases against the Commission for failure to adequately carry out its NEPA and comprehensive review and planning responsibilities. (see e.g. LaFlamme v. FERC 842 F. 2d 1063 (9th Cir. 1988); Steamboaters v. FERC 759 F.2d 1382 (9th Cir 1985); Confederated Tribes and Bands of the Yakima Indian Nation v. FERC 746 F.2d 466 (9th Cir. 1984)). Yet the Commission's budget does not adequately reflect the funding and staffing that will be necessary to meet these challenges.

NWF also urges the Committee to review the Commission's new policy of having all EIS's done by outside contractors. This new policy unnecessarily limits the Commission's in-house environmental review staffing and expertise. We urge the Committee to direct that at least a portion of additional environmental review funds be utilized directly by the Commission's staff to prepare EIS's to improve resident staff facility with the EIS process.

Equal Access to Justice

For several years the Committee has included a legislative waiver of the 1980 Equal Access to Justice Act (EAJA) as it applies to activities funded in the Energy and Water Development Appropriation bills. Specifically, the provision has barred awards to intervenors for attorney and expert witness fees incurred by small businesses and other entities in successful adjudicatory and regulatory proceedings before agencies. This is the only such waiver among all federal programs. Last year, the full House rejected an effort to expand the waiver to exclude court-related awards.

NWF urges that this EAJA waiver provision be omitted from the FY 1990 and future appropriations legislation. A review of EAJA's history before other agencies shows that this is an extremely low cost, effective program that works to curb arbitrary abuse of agency discretion and helps to assure that decisionmakers are accountable for their actions. Federal energy and water development agencies should be held to the same standards in this regard as other agencies of government.

Power Marketing Administrations

Study the sale of individual hydroelectric projects and other alternatives

The Administration proposes to study the sale of individual hydroelectric projects or groups of projects under the condition that current preference power customers are protected and that the sale price recovers, at a minimum, the unpaid Federal investment. The studies should also be conditioned on a full review under the National Environmental Policy Act. NEPA provides a framework for the development and evaluation of all reasonable alternatives.

The Department of Energy should examine possible alternatives to the current pricing, ownership, and power allocation policies beginning with the Southeastern and Southwestern Power Administrations. The analysis of these PMAs which market only about 7% of the energy sold by the five PMAs will refine the review process without disrupting the Federal power system. SEPA does not own transmission lines and markets a small share of the power in the region. The sale of the Bonneville Power Administration should not be studied in the near future. BPA markets a large share of the power in its region, has a vast network of transmission lines, and has vastly improved its financial and environmental management during the past decade.

The Southeastern Power Administration has adopted rate-making and repayment practices that are failing to recover the Federal investment in power facilities. SEPA recently announced that lower-than-expected revenues and greater-than-expected costs for the Georgia-Alabama Projects are resulting in a growing shortfall. The continuance of existing rates for this one group of projects, if uncorrected, would result in a huge accumulated deficit of nearly $8 billion by the year 2036. If SEPA used the current Treasury borrowing rate of over 9% to calculate the projected deficit, it would amount to $20 billion. SEPA did not mention this serious financial problem during its recent appearance before the Subcommittee.

SEPA is requesting $42 million in appropriations for Fiscal Year 1990. Most of these funds would be used to purchase power in the market at prices ranging from 3¢ to 5¢ per kWh for resale to its customers under five-year contracts fixed at 2¢ per kWh. In our opinion, SEPA is under no obligation to purchase power for its customers. If it does so, customers should be required to pay full price for the make-up power within 30 days. Under the current practice, the losses on purchased power are to be repaid over the next 46 years at interest rates of less than 3%. In effect, Federal appropriations to purchase power constitute low-interest loans from the general taxpayer. They should be halted.

Missouri River Fish and Wildlife Mitigation

STATEMENT OF GARY CHRISTOFF, MISSOURI CONSERVATION COMMISSIONER

Senator Johnston. Next, we want to welcome Gary Christoff, Missouri Conservation Commission.

Mr. Christoff. Thank you, Mr. Chairman, staff members, members of the committee.

I am Gary Christoff, Missouri Department of Conservation. I would like to present, appear before this committee with the States of Iowa, Kansas, and Nebraska. I believe maybe you heard from Nebraska yesterday, maybe Mike Jess. You will hear from Iowa around April 12, I think, on this program.

We are requesting an appropriation to the U.S. Army Corps of Engineers budget for fiscal year 1990. The money would be used for mitigation of fish and wildlife habitat losses associated with the Missouri River bank stabilization and navigation project, and is authorized in the 1986 Water Resources Development Act.

I have a copy, a complete copy of my testimony, which I will assume the committee would enter into the record. I will summarize at this time.

Under preproject condition, the Missouri River channel was uncontrolled. It was free to meander back and forth across the river valley. Bluff to bluff, the area was over 600,000 acres of wildlife habitat and agriculture fields. There was a great variety of aquatic habitats which existed prior to the project, and they were eliminated or severely altered by the navigation channel.

Terrestrial habitat, likewise, has been similarly reduced in both quantity and quality. The 1981 Corps of Engineers report firmly established the project-induced losses of fish and wildlife habitat and the need to mitigate. Their assessment of the mitigation need resulted in their recommendation of a $51.9 million mitigation plan. It should be recognized that this would restore only a small percentage of the habitat losses. To date, the Corps of Engineers has not requested an appropriation from the Congress to implement this plan. This lack of action on the part of the Corps has prompted the States to appear before you, united in our desired to have the Federal Government initiate mitigation funding. Our request is for

a $3 million appropriation to the "Construction general" account and a directive that the Missouri River Division spend the money for mitigation of the habitat losses.

This project has the support of the Governors of all four States. I believe that the committee will receive some correspondence from both Senator Danforth and Senator Bond on this likewise. Thank you.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Mr. Christoff. This is an excellent project. But, as with your last one, it is not authorized, as you know.

Mr. CHRISTOFF. We understand. It is authorized—it is new funding. We understand the uphill battle that we have.

Senator JOHNSTON. If there is any new start, then this is a good project. But if there are none, then it is tough. But I thank you very much for excellent testimony.

[The statement follows:]

STATEMENT OF GARY CHRISTOFF

The State of Missouri appears before this committee with the States of Iowa, Kansas and Nebraska requesting an appropriation to the U.S. Army, Corps of Engineers budget for fiscal year 1990. This money would be used for mitigation of fish and wildlife habitat losses associated with the Missouri River Bank Stabilization and Navigation Project, and is authorized in the 1986 Water Resources Development Act.

In these remarks, I will quote from the Final Feasibility Report and Final EIS of 1981, Fish and Wildlife Mitigation Plan prepared by the Missouri River Division, Corps of Engineers.

"Under the preproject condition, the Missouri River channel was uncontrolled. It was free to meander back and forth across the river valley. At all times, the channel occupied roughly 300,000 acres and consisted of numerous islands, channels, chutes, sandbars and slack water supporting vegetation in various stages of succession." Bluff to bluff, the area was over 600,000 acres of wildlife habitat and agriculture fields. "By the year 2003, the natural channel will be reduced in area from 300,000 to 112,000 acres through erosion, deposition and accretion." I call your attention to the photos showing how that process occurs. "The great variety of aquatic habitats which existed prior to the project, were eliminated or severely altered by the navigation channel."

Terrestrial habitat has been similarly reduced in both quantity and quality and will be limited to intermittent areas of mature timber located in a narrow band immediately adjacent to the river, the few remaining timbered islands and those areas preserved by the state fish and wildlife agencies."

The 1981 Corps of Engineers Report firmly establishes the project induced losses of fish and wildlife habitat and the need to mitigate. Their assessment of the mitigation needs resulted in their recommendation of a $51.9 million mitigation plan. It should be recognized that this would restore only a small percentage of the habitat losses. To date, the Corps of Engineers has not requested an appropriation from the Congress to implement this plan. This lack of action on the part of the Corps has prompted the States to appear before you, united in our desires to have the Federal Government initiate mitigation funding. Our request in for a three million dollar appropriation to the Construction-General account and a directive that the Missouri River Division spend the money for mitigation of the habitat losses.

STATEMENT OF JAMES MEITL, PRESIDENT, MO-ARK DEVELOPMENT ASSOCIATION

ACCOMPANIED BY WALT VERNON, CHAIRMAN, WATER DISTRICT NO. 1

Senator JOHNSTON. Finally, we have James Meitl, who is president of the MO-ARK Development Association.

Mr. Meitl, we are delighted to have you.

Mr. MEITL. Senator, we know your time is valuable. We appreciate Senator Dole coming and introducing us today. We also—your comments to the Trinity group that is they stayed under time, they had extra points, so we will stay under time also.

I would like to introduce, first of all, Walt Vernon, who is chairman of Water District No. 1, chairman of the board. He will make a few comments.

Mr. VERNON. Thank you very much, Senator. I want to speak very briefly to nine projects that are underway and urge your consideration for your funding. They are, I understand, in the 1990 budget.

Blue River basin; feasibility study; Brush Creek; study, plans and specifications for construction contract; Dry Fork and East Fork Lakes, evaluation and study; Grand River basin, continuation of feasibility study; Soldier Creek diversion, feasibility study; St. Joseph, MO, continuation of feasibility study for flood reductions; Turkey Creek, feasibility study; and last, construction funding for the Blue River, Truman Reservoir and Missouri River levee systems. All these projects together total $10 to $12 million.

In addition to these projects, we are speaking in support of the Flood Plan Management Service Program and the Planning Assistance to the States Program of the Corps of Engineers.

If the Chairman please, we are speaking on behalf of the MO-ARK Association, formed in 1951, following a devastating flood that occurred in and damaged cities along the Missouri and Kansas Rivers. This is a multi-State organization comprised of public and business officials. We are speaking today with representatives of several States. Most of the projects are being funded in part by local funds.

PREPARED STATEMENT

We urge the committee's continuation of support of these projects. Thank you very much for your time.

[The statement follows:]

STATEMENT OF WALT VERNON, CHAIRMAN, BOARD OF DIRECTORS, JOHNSON COUNTY WATER DISTRICT NO. 1

My name is Walt Vernon. I am Chairman and an elected member of the Board of Directors of WATER DISTRICT NO. 1 OF JOHNSON COUNTY, KANSAS. Water District No. 1, a quasi-municipal utility, is the second largest purveyor of water in the Kansas City metropolitan area and the state of Kansas. We serve a population of approximately 250,000 individuals throughout 15 cities. Our service area encompasses nearly 200 square miles.

I am speaking today on behalf of our Board of Directors to support the following projects contained in the fiscal year 1990 budget submitted by the President:

1) **BLUE RIVER BASIN:** Feasibility Study investigating measures for reducing flood damages in the Dodson Industrial Park, $100,000.

2) **BRUSH CREEK:** Initiation and completion of plans and specification for a construction contract, $215,000.

3) **DRY FORK AND EAST FORK LAKES:** Evaluation of non-lake flood control measures in the Excelsior Springs, Missouri area, $205,000.

4) **GRAND RIVER BASIN:** Continuation of a Feasibility Study to determine viable water resources in the Basin, $80,000.

5) **SOLDIER CREEK DIVERSION:** Feasibility Study regarding channel degradation, $100,000.

6) **ST. JOSEPH, MISSOURI:** Continuation of Feasibility Study for flood reductions on the Blacksnake, Whitehead, and Contrary Creeks and Brown's Branch, $160,000.

7) **TURKEY CREEK:** Continuation of Feasibility Study regarding flood control measures, $140,000.

8) **CONSTRUCTION FUNDING:** For the Blue River, Truman Reservoir and Missouri River Levee System, totaling $9,7000,000.

In addition to the projects listed above, the Board of Directors has concern for the reduction of Federal support for the **Flood Plan Management Service Program** and the **Planning Assistance To The States Program.** It is the Board's understanding that the programs are budgeted to receive only one-half of the funding of previous years. We encourage the Committee to support full funding of these programs.

MO-ARK was formed in 1951 following a devastating flood that damaged Kansas City Lawrence, Topeka and other cities along the Kansas and Missouri Rivers. We are continuing a tradition of support of Army Corps of Engineer sponsored flood control, water supply, conservation and recreation projects.

MO-ARK is a multi-state organization comprised of public and business officials dedicated to the construction of water supply and flood control projects within our geographical boundaries. Our organization attempts to bring divergent interests together to promote common goals. The projects listed above exemplify multi-state and metropolitan-wide cooperation and support. We believe our area is unique in mobilizing local support for Federally funded projects which is indicated by the fact that affected jurisdictions have agreed to provide local participation monies to match Federal funds to be appropriated for these projects. We hope that you give strong consideration to these budget requests. Thank you.

STATEMENT OF EMANUEL CLEAVER, MAYOR PRO TEM, KANSAS CITY, MO

Mr. MEITL. Next, our last speaker will be Rev. Emanuel Cleaver, who is mayor pro tem, city of Kansas City, MO.

Mr. CLEAVER. Mr. Chairman, I am Emanuel Cleaver, member of the city council and mayor pro tem of Kansas City, MO. Today, I am not only speaking on behalf of my city, but I also am speaking in support of the project of our sister cities and counties in our greater Kansas City area.

My purpose here today is to request that you continue our partnership to ensure that these projects, which are key to the continued economic growth of Kansas City, receive the funding they need. The greater Kansas City delegation also requests the same amount for the other projects in Missouri and Kansas for which the MO-ARK delegation is testifying today. Together we are working with the Mid-America Regional Council to develop a metropolitanwide approach for solving flooding problems that span jurisdictional boundaries. This will help all of us to develop better projects and maximize local funding.

We deeply appreciate the fact that Congress continues to respond favorably to our water resource needs and appropriates funds for the four flood control projects that are absolutely essential to the citizens of Kansas City, MO. Those projects are the Blue River project, mouth to 63rd Street, the upper Blue River feasibility study, design engineering for the completion of plans for a 1991 start on construction of Brush Creek project, and the Turkey Creek basin feasibility.

All of these projects, Mr. Chairman, that we propose for further funding have been chronic problems for a number of years and are worthy of your continued support. We are pleased with the progress, but, of course, we are looking forward to the day when construction is complete and we both can reap the economic benefits of our joint effort. We will continue to work with and cooperate with the Corps of Engineers to complete the work in a timely fashion.

Mr. Chairman, it will be necessary to dedicate the major portion of our limited capital improvement budget over the next 4 years toward the Brush Creek and Blue River projects at a time when there are tremendous demands to upgrade other portions of our infrastructure. For either you or the city to fail to follow through with financial support for these projects would create a serious setback in our efforts to abate the flooding that has plagued our citizens too long.

We in Kansas City continue to want a city that not only local citizens are proud of, but one that the Nation as a whole is proud of. We can only accomplish that through cooperation with you and others in the Federal Government. We both benefit from the cooperation. We urge your continued realistic support of the Kansas City projects. Thank you very much for your consideration. Mr. Chairman, we are under the time limit, so we hope that we will be above the previously funded level.

Senator JOHNSTON. Mayor, you deserve every extra consideration, and you will certainly get it.

Mr. MEITL. Senator Johnston, we have been coming before your committee for many, many years. John Madgett is with Midwest Terminal. He has been here for like 20-some years. I am sure you might remember him. Art Davis is here from the city of Lenexa, KS. Gary Montgomery is chairman and CEO of Kuhar Metallizing. He is with the Blue Valley Association. Fred Gibson is with the Plaza Merchants' Association. If you ever get to Kansas City, you want to shop at the Plaza, excellent shopping facility.

Neil Peterson is the mayor of Fairway. He is also with Mid America Regional Council, a bi-State coalition to work out various problems. Dale McDaniel is an assistant manager for Water District No. 1. Ron Borst is president of Clay & Bailey, but also with Blue Valley Association. Gurnie Gunter and Don Hurlbert represent the engineering department of the city of Kansas City, MO. So there is a lot of support for these projects. We are thankful for your time and hope for your support.

Senator JOHNSTON. Thank you very much, Mr. Meitl. Congratulations on the good work that MO-ARK Association is doing. I spoke to MO-ARK Association a few years ago down in Kansas City and had a very excellent visit in your wonderful city and spent a few dollars there shopping, as a matter of fact.

Mr. MEITL. If I could, I would also like to introduce my daughter, Elizabeth. She is 12 and came along to find out how government works.

Senator JOHNSTON. Well, Elizabeth, we are glad you are here. You see the way it works, Elizabeth, is that when you have a very good group like your father's group, they usually get what they want. We will try to do the best we can.

We want to put into the record a letter from James R. Thompson, who is the Governor of Illinois, listing Illinois' projects.

[The statements follow:]

STATEMENT OF JAMES R. MEITL, PRESIDENT, MO-ARK ASSOCIATION

On behalf of the Missouri-Arkansas River Basin Association, I submit for your consideration endorsements for the projects listed below. These projects are included in the fiscal year 1990 budget as submitted by the Army Corps of Engineer.

The projects supported are as follows:

Blue River Basin: feasibility study investigating measures for reducing flood damages in the Dodson Industrial Park,
Brush Creek: initiation and completion of plans and specification for a construction contract,
Dry Fork and East Fork Lakes: evaluation of non-lake flood control measures in the Excelsior Springs, Missouri area,
Grand River Basin: continuation of a feasibility study to determine viable water resources in the basin,
Soldier Creek Diversion: feasibility study regarding channel degradation,
St. Joseph, Missouri: continuation of feasibility study for flood reductions on the Blacksnake, Whitehead, and Contrary Creeks and Brown's Branch,
Turkey Creek: continuation of feasibility study regarding flood control measures,
Construction Funding: for the Blue River, Truman Reservoir and Missouri River Levee System.

We feel the testimony submitted herein supports the projects listed above. As the fiscal choices are being considered, please note that several of these projects include local funding complementing requested federal funds.

We thank you and your committee for considering the Association's position on these projects.

STATEMENT OF NEALE PETERSON, MAYOR, FAIRWAY, KS

I am Neale Peterson, mayor of Fairway, Kansas. Today I represent the Mid-America Regional Council as chairman of its Stormwater Management Committee. The Mid-America Regional Council is the central planning agency for the Kansas City Metropolitan Area serving about 1.5 million people residing in the states of Kansas and Missouri. There are eight counties and over 100 municipalities represented by the Council (MARC).

MARC has been a guiding factor in focusing on solutions to our many bi-state flooding problems such as the Upper Blue River, Brush Creek and Turkey Creek. To that end, we have encouraged the adoption of unified design criteria for the handling of stormwater systems, as well as recommending a watershed approach to permitting under the proposed EPA regulations for stormwater quality control.

We presently have in place authorization for a 1/10th cent sales tax for stormwater management in both states, as well as an agreement from each jurisdiction to participate in a joint effort to resolve our mutual problems. MARC's role under the Metropolitan Stormwater Agreement would include, but not be limited to, the following:

1. The establishment of a process to notify neighboring jurisdictions of projects which may have an upstream or downstream impact.
2. Mediation to resolve conflicts in stormwater management.
3. Providing a mechanism to develop intergovernmental funding for stormwater improvements within watersheds which cross jurisdictional boundaries.
4. Encouragement of activities to promote better stormwater management practices, such as adoption of stormwater design criteria suggested by APWA.
5. Seeking out federal and state assistance for stormwater management programs where appropriate.
6. Identification of key stormwater improvements and projects within watersheds and encouraging implementation of recommended actions.
7. Serving as an advocate to promote stormwater improvement on a watershed basis.

As chairman of MARC's committee on stormwater, I endorse the funding for the projects requested today, as an illustration of how this nation can work together in resolving our many flooding problems. This funding can be the catalyst needed to unite the metropolitan Kansas City Area in a more organized approach toward protecting against the severe floods experienced in the past. We sincerely appreciate your serious consideration of our requests.

STATEMENT OF BETH MORRISON, VICE PRESIDENT, COUNTRY CLUB PLAZA MERCHANTS ASSOCIATION

As Executive Vice President of the Country Club Plaza Merchant's Association, I represent a group of small to larger merchants, many individually owned businesses. Eleven years ago many of us suffered the devastating Brush Creek Flood.

The 1977 flood resulted in a $58,355,000 damage and business loss to Plaza area merchants. There was no forecasting this flood. A wall of water suddenly crashed into the Plaza without warning allowing little or no time for evacuation of people and property.

When we think of flood damages, we normally think of furniture, buildings, clothing and other personal possessions, etc. In the case of businesses, we also think of the loss of fixtures and merchandise. Of course, the Plaza merchants suffered all of these obvious losses but the Brush Creek flood taught them that when businesses are flooded there are other, equally devastating, if less visible, losses. For example, merchants who had charge customers lost all of the records of their accounts receivable, which meant that they would never be paid for much of the merchandise they had already sold.

A few businesses didn't survive the flood, but most of them reopened and they reopened faster than anyone dreamed was possible. The courage and dedication of the merchants who fought their way back is almost unimaginable. They not only had the heartbreaking and back-breaking job of the clean-up, they also had to scramble for merchandise to sell when they reopened, and they had to devote long, tedious hours to trying to piece together the many kinds of records necessary to running a business. Above all, they had to find ways to survive financially. Since a flood was the last thing they expected, almost all of them had no flood insurance and so had to bear their losses personally.

The Country Club Plaza is the nation's oldest and finest shopping center. What Fifth Avenue is to New York, and what the Miracle Mile is to Chicago, the Plaza is to Kansas City. For more than 75 years it has been devoted to providing quality goods and services. The Country Club Plaza is very important to Kansas City. It is an important part of the tax base. It attracts commercial development. It provides jobs to thousands of people. In many ways, it is the very heart of Kansas City.

Eleven years have passed but memories of the flood are fresh in everyone's mind. Everyone is conscious and supportive of the proposed Brush Creek Flood Control Project and pray that money will be allocated to complete the design work through fiscal year 1990.

The Plaza Merchants very much appreciate your support in assuring that we will never have to endure such economic and personal devastation again.

STATEMENT OF EMANUEL CLEAVER, MAYOR PRO TEM, KANSAS CITY, MO

I am Emanuel Cleaver, member of the City Council and Mayor Pro Tem, of Kansas City, Missouri. Today I am not only speaking on behalf of my City, but I am also speaking in support of the project of our sister cities and counties in our Greater Kansas City area.

My purpose here today is to request that you continue our partnership to insure that these projects which are key to the continued economic growth of Kansas City receive the funding they need. The Greater Kansas City delegation also requests this same support for the other projects in Missouri and Kansas for which the Mo-Ark Delegation is testifying today. Together we are working with the Mid-America Regional Council to develop a metropolitan-wide approach for solving flooding problems that span jurisdictional boundaries. This will help all of us to develop better projects and maximize local funding.

We deeply appreciate the fact that Congress continues to respond favorably to our water resource needs and appropriates funds for the four flood control projects that are absolutely essential to the citizens of Kansas City, Missouri. Those projects are:

1. The Blue River project - mouth to 63rd Street;

2. The Upper Blue River Feasibility Study;

3. Design engineering for the completion of plans for a 1991 start on construction of the Brush Creek project;

4. Turkey Creek Basin Feasibility Study.

All of the projects that we have proposed for further funding have been chronic problems for a number of years and are worthy of your continued support. We are pleased with the progress, but of course are looking forward to the day when construction is complete and we both can reap the economic benefits of our joint effort. We will continue to work with and cooperate with the Corps of Engineers to complete the work in a timely fashion.

The Blue River project is in its fourth year of construction funding with approximately ten years of funding needed to complete the project. Kansas City has been pursuing the improvement of the Blue River channel since the major floods of 1928 and 1929. After the flood of September 13, 1961, the U.S. Senate and House of Representatives committees on public works adopted resolutions requesting a study of the Blue River. This study was completed in 1968 and the Blue River channel improvement project was authorized by Congress in 1970. A contract was executed between Kansas City, as local sponsor, and the federal government in 1983, and construction began in November, 1983.

Kansas City, as local sponsor for this project, is responsible for all right-of-way acquisition, utility relocation, and bridge modification costs. The non-federal costs are estimated to be $22.9 Million and the federal cost is estimated to be $174 Million. As of January, 1988, Kansas City has expended $3.5 Million and the Corps of Engineers has expended $21.1 Million.

Construction efforts have continued in the area between the mouth of the river and 15th Street. To date, two construction projects have been completed, a third is under construction, and a fourth is scheduled to start this fiscal year. Design of the third and last phase of the channel improvement between Truman Road and 63rd Street should be completed next fiscal year. We are pleased with the construction funding, the quality of design and construction, and the Corps' scheduling of the project. We urge your continued support on this important project.

The study of the Upper Blue River is moving forward. The reconnaissance report completed last year recommended a feasibility study and we have concurred in the recommendation. We committed ourselves to a cost sharing agreement for the feasibility study this year. We are currently working with the Corps of Engineers

as they develop the study. The Dodson industrial area which will benefit from this flood control project is forecasted to become a strong economic force in the City when this project is completed. We are eager to move this project forward as rapidly as possible.

Brush Creek runs from the western boundary of the City east through Kansas City's largest and most famous commercial center and into the Blue River. Two record storms occurred in 1977 resulting in catastrophic flooding throughout the metropolitan Kansas City area. Hardest hit was the Brush Creek basin in Kansas City, Missouri, with the loss of twelve lives and over $66 Million in damages.

Since that time, several studies have been completed and considerable engineering work has been done as a joint effort between the City and the Corps of Engineers to develop a flood protection project along Brush Creek. To date, preliminary engineering work has been completed and a physical model of Brush Creek has been constructed by the Corps' Waterway Experiment Station in Vicksburg, Mississippi.

The flood control project that is being coordinated with the Corps of Engineers involves three segments:

1. State Line to Roanoke - City project upstream;

2. Roanoke to below Troost - Federal project;

3. Below Troost to below Paseo - City's Paseo reach.

The City is responsible for all costs in the upstream reach (State Line to Roanoke) and the Paseo reach (below Troost to below Paseo). The City is also responsible for 25% of the cost of the federal project from Roanoke to below Troost, plus the cost of all utility relocations and the additional cost for the initial Park plan. This 25% includes lands, easements, rights-of-way, and the replacement of the bridges at Main, Oak, and Rockhill.

As a result of this overall project, we expect a benefit of over $70.0 Million in savings from flood damages in the future. This project is also being viewed as a catalyst for economic development east of our largest commercial area, the Plaza. Without the flood control, however, the Plaza area will remain in jeopardy and growth will be severely restricted.

The restudy of the Turkey Creek basin is to consider interim solutions for a protection system against the frequent flooding along Southwest Boulevard in Kansas City, Missouri, and Kansas City, Kansas. Turkey Creek lies in two states, three counties, and affects both commercial and residential properties. Both cities have passed resolutions of support for the restudy. We have agreed to jointly sponsor a corrective project which the study deems to be economically feasible. The reconnaissance report indicated that there are solutions. The Corps of Engineers is now performing the jointly funded feasibility study. We will work together closely with them and Kansas City, Kansas, to develop the solutions that will solve this serious problem.

Mr. Chairman, it will be necessary to dedicate the major portion of our limited capital improvement budget over the next four years towards the Brush Creek and Blue River projects at a time when there are tremendous demands to upgrade other portions of our infrastructure. For either you or the City to fail to follow through with financial support for these projects would create a serious setback in our efforts to abate the flooding that has plagued our citizens too long.

We in Kansas City continue to want a city that not only the local citizens are proud of, but one that the nation as a whole is proud of. We can only accomplish that through cooperation with you and others in the federal government. We both benefit from that cooperation. We urge your continued realistic support of the Kansas City projects and thank you very much for your consideration.

STATEMENT OF ART DAVIS, SECRETARY-TREASURER, MISSOURI-ARKANSAS RIVER BASIN ASSOCIATION

I am Art Davis and I am appearing as Secretary-Treasurer of the Missouri-Arkansas River Basin Association and also on behalf of Rich Becker, Mayor of the City of Lenexa, Kansas. Lenexa is a city of approximately 32,000 residents and is the fastest growing municipality in the bi-state Kansas City metropolitan area. Lenexa is a leading advocate of MO-ARK and its mission to insure intergovernmental cooperation and dedication to provide for the construction of water supply and flood control projects throughout the region.

With this in mind, Mayor Becker and MO-ARK strongly support the fiscal year 1990 Budget requests as proposed by the President.

1. **Construction funding:** For the Blue River ($5,800,000), Truman Reservoir and Missouri River levy system totaling $9,700,000.
2. **Turkey Creek:** Continuation of the feasibility study regarding flood control measures, $140,000.
3. **Blue River Basin:** Feasibility study investigating measures of reducing flood damages in the Dodson Industrial Park, $100,000.
4. **Brush Creek:** Initiation and completion of plans and specifications for a construction contract, $215,000.
5. **Dry Fork and East Fork Lake:** Evaluation of non-lake flood control measures in the Excelsior Springs, Missouri area, $205,000.
6. **Grand River Basin:** Continuation of a feasibility study to determine viable water resources in the basin, $80,000.
7. **Seltzer Creek Diversion:** Feasibility study regarding channel degradation, $100,000.
8. **St. Joseph, Missouri:** Continuation of feasibility study for flood reductions on the Black Snake, White Head, and Contrary Creeks and Brown's Branch, $160,000.

As evidenced by our City's commitment to MO-ARK, and while Lenexa stands to benefit very little directly from the improvements, we tend to take a global view and understand the tremendous indirect benefit to our City,

along with making the entire Kansas City metropolitan area a more attractive and safe place to work, live, and raise a family.

Mr. Chairman, I respectfully request that the Subcommittee on Energy and Water Development recommend funding for these fiscal year 1990 projects.

STATEMENT OF RONALD BORST, MO-ARK ASSOCIATION

I am Ronald Borst, Member of the Mo-Ark Association. I am here today speaking for Mike McCormick, President of the Blue Valley Association. This testimony is presented to thank you for your previous assistance and to offer our support to all the projects in Missouri and Kansas for which the Mo-Ark Association delegation is appearing today.

I especially want to address the two Fiscal Year 1990 Budget requests that are specific to the Blue River. They are the requests for the following:

1. $100,000 for the continuation of the feasibility phase of the study investigating measures for reducing flooding in the Dodson Industrial Park. This is being cost shared on a 50 - 50 percent basis with the City of Kansas City, Missouri.

2. $5,300,000 requested for the continued construction of the Blue River Channel Improvement Project that started November, 1983 and is expected to be completed September 1999. The dollars will be used to continue relocations of railroads ($739,000); continue construction of the channel modifications ($2,765,000); and engineering, design, supervision and administration ($1,796,000).

The Blue River is an interstate stream that flows generally South to North to the mouth at the Missouri River, through the most heavily industrialized area in Kansas City and the surrounding area. The Blue River Channel Modification Project extends from the mouth, upstream approximately 12.5 miles, wholly within the corporate limits of Kansas City, Missouri. However, 55% of the drainage area lies within the State of Kansas.

Continuing basin development is increasing both flooding frequency and Flood Heights and for many years this vital industrial area has steadily deteriorated because of this constant threat.

From the economic standpoint, the Corps of Engineers and Kansas City agree on the benefits of the project. Benefits are calculated to be approximately twice the cost. In 1983 it was estimated that average annual flood damages would be reduced from $24,400,000 to $7,200,000. I am sure these numbers could be raised easily by an inflation factor of 25% to 30%.

There are over 1,000 businesses having over 30,000 employees in the Blue Valley that could be damaged by a major flood. The damage would be devastating to the businesses and the Kansas City economy. The only possible way to alleviate our flooding is to finish the Blue River Channel Project.

The Blue Valley Association was founded in April of 1920 and was incorporated in May 1940. The objective of the association is to develop the welfare of the Blue Valley District of Kansas City, Missouri, its' industries, its' real estate, its' merchants and its' homes and to contribute to the protection, development and extension of those interests in all lawful ways.

The Blue Valley Association's membership is composed of heavy Industry such as Armco Steel, General Motors and Butler Manufacturing, along with their support industries such as Clay & Bailey Manufacturing Co., Kuhar Metalizing and Industrial Mold and Tool, and the small businesses such as Barbe Florist and Kissick Truck Lines.

The last economic impact study done by the Blue Valley Association showed that its' members had a collective payroll of over $322,000,000 and paid over $3,300,000 in local taxes alone.

It is for these businesses, employees and home owners that we strongly encourage your continued support of these projects by your favorable consideration to these budget requests.

Little Calumet River, IN

PREPARED STATEMENT OF SENATOR COATS OF INDIANA

Senator Johnston. I want to include in the record a statement from Senator Dan Coats regarding the Little Calumet flood control project.

[The statement follows:]

Statement of Senator Dan Coats

I strongly support construction of the Little Calumet River flood control project and urge you to provide funds in the FY90 Energy and Water Appropriations bill.

The Little Calumet River project will protect lives and secure thousands of homes and businesses in Northwest Indiana. The project enjoys widespread community support and will promote economic growth in the region.

Communities in the Little Calumet Basin suffer repeated and costly flood damage. The Army Corps of Engineers estimates that the project will prevent millions of dollars in damages annually and will enhance employment and recreational opportunities throughout the region.

The Corps requires $2.4 million in fiscal year 1990 to complete engineering and begin construction. This relatively modest investment of public funds will make a vital difference to thousands of Hoosiers and I urge your support.

Illinois Water Resource Projects

PREPARED STATEMENTS

Senator Johnston. In addition, Governor Thompson of Illinois has submitted a statement for the record. That will be included, along with several other statements covering various Illinois projects.

[The statements follow:]

LETTER FROM JAMES R. THOMPSON, GOVERNOR OF ILLINOIS

March 15, 1989

Honorable J. Bennett Johnston
Chairman, Subcommittee on Energy
and Water Development
Committee on Appropriations
131 Dirksen Senate Office Building
Washington, D.C. 20510-6025

Dear Senator Johnston:

Attached please find copies of the State of Illinois' proposed project list for the FY 90 budget of the Corps of Engineers. I ask your consideration of and favorable action on this request.

The attached list identifies those Corps of Engineers projects of highest priority to the State of Illinois. Five state agencies reviewed these projects and found them worthwhile based on need, cost, local sponsorship and Corps' interest. The list includes both items in the President's FY 90 budget request and others that we propose for special consideration.

I recommend inclusion of all these projects in the FY 90 Energy and Water Development Appropriations Act. Should you require any supporting documentation for these projects or other information, please do not hesitate to contact my Washington office (202/624-7760). Please include this correspondence in the hearing record of the Subcommittee.

Sincerely,

James R. Thompson
GOVERNOR

LETTER FROM JAMES R. THOMPSON, GOVERNOR OF ILLINOIS

April 11, 1989

Honorable J. Bennett Johnston
Chairman, Subcommittee on Energy
and Water Development
Committee on Appropriations
131 Dirksen Senate Office Building
Washington, DC 20510-6025

Dear Senator Johnston:

On March 15, I sent you a list of Corps of Engineers projects of high priority to the State of Illinois. Two surveys, which are in the President's budget, were inadvertently left off that list. They are the South Fork of the Sangamon River ($155,000) and W. Frankfort and vicinity ($150,000).

The original letter is attached. For additional information or documentation on these projects, please contact my Washington Office (202/624-7760).

Sincerely,

James R. Thompson
GOVERNOR

STATEMENT OF THE STATE OF ILLINOIS

The State of Illinois supports the following projects in the President's fiscal 1990 budget.

SURVEYS

Des Plaines River	250,000
Illinois Waterway Navigation Study	400,000
Upper Mississippi River Navigation Study	600,000

PRECONSTRUCTION ENGINEERING & DESIGN

Olmsted Locks and Dam	3,800,000

CONSTRUCTION

Alton to Gale Levees	1,400,000
East St. Louis	3,500,000
Melvin Price Lock and Dam	35,000,000
Melvin Price Lock and Dam - Second Lock	65,000,000
North Branch Chicago River	4,550,000
South Quincy L & DD	1,406,000
Upper Mississippi River Environmental Management Program	14,860,000

OPERATIONS AND MAINTENANCE

Illinois supports the Corps' budget request for continued adequate maintenance and operation of navigation, flood control and multiple purpose projects in and bordering the State.
In addition to the projects in the President's budget for which we have indicated support, the State of Illinois has the following needs and priorities.

CHICAGO UNDERFLOW PLAN (CUP)

The 1988 Water Resources Development Act authorizes $419 million for the Chicago Underflow Plan to construct two suburban reservoirs for stormwater and sewage overflow. The O'Hare Reservoir segment of this plan is ready for construction, and we request $1.5 million for a construction start. The McCook Reservoirs will require $1.7 million for pre-construction engineering and design.

DES PLAINES RIVER WETLANDS

Illinois also urges that the Corps support the continuation of the Des Plaines River Wetland Research Project with an $1,000,000 appropriation in FY 90. This research project will produce detailed design criteria and management programs for re-creating and maintaining wetlands, and will determine sediment control, water quality and flood control benefits from wetland restoration.

DAM SAFETY

Title XII of the Water Resources Development Act of 1986 authorizes $16,000,000 annually through FY 92 for the enhancement of dam safety efforts nationally. The State of Illinois strongly urges full funding of this authority.

$13,000,000 for matching funds for state dam safety programs
$ 500,000 for training of state inspectors
$ 2,000,000 for dam safety research
$ 500,000 for dam safety inventory.

ST. LOUIS HARBOR

For Preconstruction Engineering and Design of the St. Louis Harbor project, we are requesting $1,200,000.
The construction of a new harbor on the Chain of Rocks Canal in Illinois will help alleviate a critical shortage of riverfront sites suitable for barge operations in the bi-state St. Louis metropolitan port, and the construction of a dike structure on the St. Louis side will reduce the adverse effects of sedimentation at existing Missouri docks. The harbor construction project does not involve the creation of additional flood-free land; the land behind the harbor is already levee-protected.

ILLINOIS BEACH STATE PARK

Illinois urges the funding of the Preconstruction Engineering and Design phase of the shore protection authorized for Illinois Beach State Park in the amount of $500,000. The extreme high water levels of Lake Michigan and erosive wave action experienced in 1985 threatened not only this irreplaceable park which has in excess of 2 million visitors per year, but also the first designated Nature Preserve in Illinois.

Illinois needs to assure the park is protected should these high levels occur in the future.

UPPER MISSISIPPI RIVER MANAGEMENT PLAN

Section 1103 of the Water Resources Development Act of 1986 authorized nearly $16 million for FY 88, nearly $18 million for FY 89 and over $19 million in FY 90 for implementing environmental recommendations in the Master Plan. A little more than $5 million was provided in both FY 88 and FY 89. While nearly $15 million is in this year's budget request we believe this program should be pursued at or near the authorized level.

TECHNICAL SERVICES

Floodplain Management Services and Planning Assistance to states (Sec. 22) have been cut to half of this year's level. We request full authorized funding of these items. In particular, Illinois requires $500,000 for Floodplain Management Services and $300,000 for Section 22 planning assistance.

OPERATION AND MAINTENANCE

Illinois is aware of the recent proposal to reduce the Corps' operation and maintenance funds in two areas: recreational harbors with less than 25,000 tons of commerce and Corps recreation facilities. If reductions are to be made, then Illinois recommends that the specific reductions be determined by interaction among the affected Corps Districts that serve Illinois and the involved State agencies. The closure or partial closure lists examined to date were made without Illinois' input and are unacceptable to the state, which strives to bring a balanced recreation system to its citizens.

STATEMENT OF THE UPPER MISSISSIPPI RIVER BASIN ASSOCIATION

PROJECT: Upper Mississippi River System Environmental Management Program, IL, IA, MO, MN, WI

PRESIDENT'S REQUEST: $14.86 million

PROPOSED APPROPRIATION: $19.95 million

AUTHORIZED APPROPRIATION: $19.95 million

The Upper Mississippi River Basin Association, established by the states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, serves its member states' needs for dialogue and cooperative action on water resources issues of common concern. The Association's predecessor Commission was the author of the Congressionally authorized "Comprehensive Master Plan for the Management of the Upper Mississippi River System" which, when submitted to Congress in 1982, provided the basis for the Environmental Management Program for the Upper Mississippi River System (UMRS-EMP) as authorized in Section 1103 of the Water Resources Development Act of 1986. The Association is designated by Congress as the "caretaker of the Master Plan," or EMP, and therefore serves as the regional forum for the implementation of that program.

The Upper Mississippi River Basin Association supports appropriation of the full authorized amount of $19.95 million in FY 1990 for the UMRS Environmental Management Program. This represents an increase of roughly $5 million over the amount included in President Reagan's budget proposal. Fiscal Year 1990 will mark the third year of this ten year program. To date, appropriated funds have been significantly below authorized levels. However, much progress has been made and it is now time to launch this unique program to its full capacity.

The Governors of the five states which participate in this partnership program are keenly sensitive to the need for fiscal restraint to control the federal deficit. We are therefore requesting that an increase in funding for the UMRS Environmental Management Program be accommodated within the total civil works budget for the Corps of Engineers. Full funding for the Environmental Management Program would be consistent with the renewed emphasis on environmental protection which President Bush's administration is promoting. In addition, this unique program is related in many fundamental ways to the growing national concern for wetlands protection and the "no-net-loss" wetlands policy embraced by the new Administration.

One of the many reasons why the UMRS Environmental Management Program is unique is that it is the responsibility of the Corps of Engineers, an agency whose traditional mission is expanding to embrace environmental protection. The program is proving to be a tremendous success and one which will provide a model for the Corps of Engineers' growing responsibilities in the field of environmental protection. The strength of the program lies in the integration of the unique engineering expertise of the Corps and the talents of biologists and resource managers from state agencies and the U.S. Fish and Wildlife Service. A multi-disciplinary approach is being brought to bear on the complex problems associated with the loss of valuable fish and wildlife habitat along the Upper Mississippi River.

The UMRS Environmental Management Program authorized by Section 1103 of the Water Resources Development Act of 1986 consists of five primary components:

- habitat enhancement and rehabilitation projects
- long-term resource monitoring
- recreation projects
- economic impacts of recreation study
- traffic monitoring.

The major emphasis of the program and the major portion of available funding is directed toward the projects to rehabilitate and enhance backwater habitats and the long-term resource monitoring effort. The rehabilitation projects involve the identification of key habitat areas which are being degraded by natural or human-induced activities. The projects are designed to restore or protect areas which may be adversely affected by sedimentation from upland erosion or by the use and operation of the system for navigation purposes. Each of the projects (ranging in cost from about $200,000 to $6 million) employ different types of techniques including such things as dredging to remove sediment, dike or levee construction, island creation, water control systems, or side channel closures or openings.

The long-term resource monitoring program not only evaluates the effectiveness of the habitat rehabilitation projects, but generally tracks the environmental health of the river system. Long-term trends in selected physical, chemical, and biological parameters are monitored at a series of field stations along the river. In addition, laboratory and field analysis is undertaken for specific resource problems.

The additional funds of $5 million which the Association is requesting would enable a number of key components of the program to be undertaken or accelerated:

1) Additional important habitat rehabilitation projects in all five states could proceed to construction and additional engineering and design work could be done on projects for construction in future years. If the program is to ever approach the level of effort originally authorized in the 1986 Act, it is essential that pre-construction design work for individual projects be undertaken, particularly in the early stages of this ten-year effort.

2) The long term resource monitoring program could enhance its geographic coverage by establishing at least one additional field station. The program was originally designed to include six field stations from which monitoring and sampling activities would be conducted. To date, due to

limited funding, only 3 stations are operational. It is imperative that the additional stations be established as soon as possible to provide a consistent set of baseline data for trend analysis.

3) Data necessary for the geographical information system could be obtained if additional funds were made available. This would include aerial photography, Landsat imagery, and the interpretation and digitizing of this information. It is important to have this land use and aquatic areas information available early in the long-term monitoring program so that it can be fully functional prior to 1992 when the second lock at Lock and Dam 26 is completed. In this way, the effects of increased traffic levels can be properly evaluated.

In addition, the states believe that it is important that the recreation projects authorized as part of the Environmental Management Program be initiated. To date, none of the funds appropriated for the Environmental Management Program have been devoted to recreation facility development because the prior Administration has indicated that as a matter of national policy, it did not intend to pursue any recreation projects, even if they were cost-shared. This policy is clearly inconsistent with the Environmental Management Program authorized by Congress and the multi-purpose management philosophy approved by Congress as a guide for future water policy on the Upper Mississippi River System.

A clear expression of Congressional intent will help insure that the recreational component of this multi-purpose program is preserved. In addition to providing funds for recreational development within the appropriations for the UMRS Environmental Management Program, it will be necessary for Congress to direct that a portion of those funds be expended on recreational development. The Upper Mississippi River Basin Association believes that statutory guidance is the only avenue available to redirect current Administration policy with regard to recreational development. It is therefore the Association's recommendation that the FY 1990 Energy and Water Development Appropriations Bill include language as follows:

> "Within these funds, the Secretary of the Army is directed to initiate the design and construction of cost-shared recreation projects as part of the UMRS Environmental Management Program."

In closing, it is important to note that the UMRS Environmental Management Program is truly a collaborative effort. The Corps of Engineers, U.S. Fish and Wildlife Service, and the five basin states have all worked diligently to make this partnership a strong and viable one. Significant state resources have been devoted to the design of habitat projects and in many instances, the shared costs of construction or the full operation and maintenance of the projects once they are completed.

The initial two years of this unique program have not been without problems. However, we are confident that we have met these challenges and are able and equipped to execute the program at the full level originally authorized by Congress. It is this confidence, tempered by the realistic vision of the work that can be accomplished, which provides the basis for our request for full program funding for the first time since the program's inception. The State of Missouri, however, supports the President's FY 1990 budget request and asks for fully authorized funding in future budget cycles. It is the Association's firm belief that substantial progress can be made toward the protection, rehabilitation, and development of the unique resources of the Upper Mississippi River System if $19.95 million is committed to this effort in FY 1990.

The Upper Mississippi River Basin Association is committed to the multi-purpose management of the river system including necessary improvement of the system's commercial navigation features, such as the second lock at Lock and Dam 26, and enhancement of the system's environmental and recreational values. Federal investment in all the components of the system must be made to insure that balanced management is achieved. The Upper Mississippi River Basin Association believes that the UMRS Environmental Management Program is a critical part of this balance, a wise investment, and an investment which we urge be made.

STATEMENT OF THE SNY ISLAND LEVEE DRAINAGE DISTRICT

The Sny Island Levee Drainage District has a serious problem that needs attention before it turns into an emergency that would cause untold millions in property and crop damage and possible loss of life.

There are several areas along the main stem Mississippi River levee where wave wash has eroded into the toe of the levee. On the surface, given normal pool elevations, this may not appear to be a threat, however, without the protection of a buffer, high water, river current, and wind/wave action could quickly eat away the sand levee exposing thousands of acres and many people to grave consequences.

Past contact with the Corps of Engineers has resulted in the following information: If failure of the levee is eminent, the Corps will take action to attempt to save the levee. We all know, you, the Corps of Engineers, and the members of the District, that by the time there was a determination that, "failure was eminent" it would be too late, as it would be impossible to tell where to place protection even if we were able to get equipment to the area.

Admittedly, all of the areas of concern will not fail at once, and some may never fail, but it would be far less costly to place protection in all of those areas now, than to repair the results of one levee failure.

The Corps contends, and rightly so, that the District accepted responsibility for the maintenance of the levee when the project was completed. However, we believe this condition is over and above normal maintenance. Because the Corps maintains a navigation pool and holds the river at a constant level, wave wash, wind and boat traffic take a continuous toll on the levee toe. There are areas where the bank has eroded many feet yearly. These losses are irreplaceable and further losses must be prevented to protect the integrity of the levee.

One of the areas in question lies in McDonald Chute, above Hannibal on the Illinois shore. There is a stretch of bank approximately 2000 feet that has severe bank erosion. This past year since we were unable to obtain any assistance from the Corps of Engineers, the District attempted to place rock protection in the areas that appeared to pose the biggest threat. We spent over $40,000.00 and were able to cover only 450 feet of the 2000 feet total. As is readily apparent, on our own, the District simply cannot afford to cover all the areas needing protection.

We would like for you to be able to view the areas and see for yourself that we are not just crying "Wolf". When you see first hand the relationship between the pool and the levee, what a narrow band of protection there is, and how vulnerable, I believe you will agree that corrective action must start before the water is at the levee top.

The District will be happy to assist in arrangements to view the areas in question, if you would advise us as to a preferred schedule.

Please feel free to call on us at any time for further information.

STATEMENT OF THE UPPER MISSISSIPPI FLOOD CONTROL ASSOCIATION

SUMMARY AUTHORIZED PROJECTS

PROJECTS	EST.FED. COSTS	BUDGETED FY 90	REQUESTS	REMARKS
1. South Quincy Drainage & Levee District, IL (F.C.)*	$6,900,000	$1,406,000	$1,406,000	See Discussion
2. Green Bay Levee & Drainage Dist. No. 2, Iowa (PED)**	$ 700,000	0	$ 200,000	See Discussion
3. Muscatine Island Levee & Drainage Dist. and Muscatine Louisa Co. Drainage District No. 13, Iowa (C)*	$ 5,720,000	$ 0 (C)	$ 0 (C)	See Discussion

*Flood Control
**(PED) Planning and Engineering Design
(C) Construction

Three of our twenty-four Member Districts were recommended for increased flood protection under P.L. 99-662. They are the South Quincy Drainage and Levee District, Illinois; Green Bay Levee and Drainage District No. 2, Iowa; and Muscatine Island Levee & Drainage District and Muscatine Louisa County Drainage District No. 13, Iowa.

A brief discussion of the three Upper Mississippi Flood Control Association's authorized projects is as follows:

1. SOUTH QUINCY DRAINAGE AND LEVEE DISTRICT FLOOD CONTROL PROJECT

During 1987 the District secured Court approval to enter into contract with the Federal Government and the State of Illinois to construct the project and to spread a special assessment against all lands within the District to pay its share of the cost. The special assessment has been spread and funding assured.

The current estimated construction cost is $9,200,000, of which cost sharing is:

Federal Costs at 75% ----- $6,900,000
Non-Federal at 25% ------- $2,300,000

The first and second stages of the Levee Improvement Project are under construction, under original estimated cost, and work is progressing on schedule.

Our association urges retention of the President's budgeted amount of $1,406,000 for FY 90.

2. THE GREEN BAY LEVEE AND DRAINAGE DISTRICT NO. 2, IOWA, FLOOD CONTROL PROJECT

The Green Bay Levee and Drainage District No. 2, Iowa, Flood Control Project remains dormant due to lack of Federal funding.

May we be forgiven for once again repeating. This Project after running the gamut of approximately nine years of study, dredging demonstration projects, inter-State and Federal Agreements, a C.O.E. design study or Survey Report based upon a 200 year flood frequency protection, was recommended for construction. The Board of Engineers of Rivers and Harbors during review recommended that the protection be increased to a 500 year flood frequency design.

The administration found that a 500 year design was not appropriate for Agriculture areas and questioned the proposed protection to the large Fertilizer Plant within the District.

It is our understanding that in the Corps of Engineers Cost-Benefit analysis, benefits were not taken for probable damages of chemical spills into the River due to a levee failure.

The Drainage District, has no serious objection to reverting back to the original design and cost basis of a 200 year frequency flood protection project, but agrees with the analysis of the Board of Engineers for Rivers and Harbors that a 500 year design is cost effective.

It is the feeling of local landowners that the large Chemical Plant which is now closed down due to the depressed agricultural segment of the economy, could be disregarded in evaluating the cost/benefit ratio. It could well be that the District without the Chemical Plant could stand on its own merit.

Our Association is concerned over the status of this flood control project, due to its dormant stage and lack of funding during the last three years. We understand that projects which do not receive funding through appropriation bills within five years are to be automatically deauthorized. If our information is correct, this could be November 1, 1991.

Continuing Planning and Engineering funds for FY 90 might develop justification for a closer look at the feasibility of the project. At least another look might prevent the total loss of the great amount of Federal, State and Local costs incurred and spent to date.

The C.O.E. has expressed a capability of $200,000 for Continuing Planning and Engineering for FY 90. The Landowners are anxious to keep the project alive and hope that some funds can be found to initiate Planning and Engineering Design (PED).

The Drainage District realizes that if Congress provides funds not included in the President's FY 90 Budget, some other recommended project must be reduced. If it cannot be done this year, then FY 91.

The District has agreed to fund its 25% cost sharing provision of the "Water Resources Development Act of 1986, P.L. 99-662".

3. THE MUSCATINE ISLAND LEVEE DISTRICT, MUSCATINE-LOUISA COUNTY DRAINAGE DISTRICT NO. 13, IOWA, AND THE MUSCATINE CITY-MUSCATINE ISLAND DISTRICT

This project report is under review in the Chief's Office, U.S. Army Corps of Engineers and other Federal offices. Construction cannot begin until final review has been made. We understand that the (GDM) General Design Memorandum is under preparation in the Rock Island District office of the Corps of Engineers.

No construction funds are needed until the review is completed. This project has been basically stalled for two years. Should the ongoing Review be completed by late spring or early summer, it might be possible to initiate construction in FY 90 providing Congress would authorize and appropriate the necessary funds. We are hopeful this can be done. We urge your Honorable Committee to check with the Corps of Engineers.

The following projects are under study.

SPECIAL STUDIES

1. MARION COUNTY DRAINAGE DISTRICT, MISSOURI

The Marion County Drainage District, Marion County, Missouri, a member of our Association, has a small watershed project under study, authorized under Section 205 of the Flood Control Act of 1948, as amended. The Act provides authority to the Chief of Engineers to approve and construct such projects if they are economically justified and the cost does not exceed a specified amount. The Drainage District expects a final report by June of this year.

This study does not require direct Congressional action. Our Association appreciates the provisions granted by Congress under Sec. 205 of the Flood Control Act of 1948 since it facilitates action on small needed projects.

2. SNY ISLAND LEVEE DRAINAGE DISTRICT, ILLINOIS

The Sny Island Levee Drainage District has under study the review of completed projects (R.C.P.), namely the Diversion of Horton and Dutch Creeks directly into the Mississippi River in lieu of the Dutch-Horton Creek Reservoir or in conjunction therewith and other completed works.

The Corps of Engineers has expressed a capability of $85,000 to initiate and complete the Reconnaissance Phase of study under Section 216 of the 1970 Flood Control Act.

The President's FY 90 Budget does not include the $85,000. Unless Congress authorizes and appropriates $85,000 to program a new study start, an alternate route may be appropriate. Efforts are being made to proceed under Sec. 205 of the 1948 Flood Control Act as amended.

Local interests are very anxious for the completion of this study and a successful resolution of the problem. The Drainage District has agreed to participate in cost sharing as per current recommendations P.L. 99-662.

3. COMMENTS

During the past several years, members of our Association continue to express concern over river bank erosion. When the Upper Mississippi Navigation System was constructed in the 1930's, it was our Association's view, and still is, that the then existing private levees became a part of the Navigation System, all tied closely to the economic welfare, human lives, recreation, and environment of the entire region. As the years have passed, the Mississippi River in its natural meandering action has tended to erode certain bank areas until some long existing levees are becoming endangered. Our Association believes "a stitch in time saves nine".

It is hoped that a means can be developed whereby the Corps of Engineers will have the authority and necessary funding to repair such eroded areas before a levee break occurs or subsequent remedial action becomes very costly.

The Corps of Engineers has been apprised of our Association's concerns and are cooperative in seeking a solution.

Our Association recognizes that bank erosion problems, if fully addressed, could become a major costly nationwide endeavor. However, there would appear justification for paying special attention to the Upper Mississippi River Navigation System.

One major justification being that many of the Upper Mississippi River Lock and Dams are anchored in levees on both sides of the river, which levees were originally constructed entirely with local funds by the Drainage Districts and other public and private parties.

There seems to be a Federal perception that since the Federal Government strengthened the existing levees from Hamburg Bay to Guttenburg, Iowa under the 1954 Flood Control Act and similar acts, and the Drainage Districts signed assurances that the Districts would operate and maintain the levees in accordance with the dictates of the Secretary of the Army of the U. S. Government, the responsibility of shoreline protection, as it relates to the levees, rests on the shouldwrs of the Drainage Districts.

The Drainage Districts simply do not have the funds to rip-rap and maintain the navigation channel in place.

It is a privilege to present this testimony.

PREPARED STATEMENTS SUBMITTED FOR INCLUSION IN THE RECORD

Senator JOHNSTON. Before we recess, I should indicate that we would normally receive testimony from numerous witnesses regarding energy research and development programs of the Department of Energy. However, scheduling conflicts and time constraints will not allow for oral testimony.

So I have, therefore, asked the staff to notify all of those that have requested an opportunity to present oral testimony to submit written statements for inclusion in the record.

Those statements will be made part of the record at this point when received.

[The statements follow:]

LETTER FROM SENATOR WYCHE FOWLER, JR.

April 28, 1989

Honorable J. Bennett Johnston, Chairman
Subcommittee on Energy and Water Development
Senate Committee on Appropriations
136 Hart Senate Office Building
Washington, DC 20510

Dear Mr. Chairman:

On behalf of Clark Atlanta University in Georgia, I am writing to request that you accept the attached testimony of Dr. Thomas Cole, Jr. for submission into the record of your subcommittee's proceedings on the FY90 appropriations bill.

Clark Atlanta University is a new institution formed through the consolidation of Clark College, a historically black undergraduate college, and Atlanta University, a historically black graduate university. Clark College and Atlanta University have each served the educational needs of black Americans for over one hundred years.

Through a combination of private assistance and federal support, Clark Atlanta University is prepared to continue its leadership role in high quality education of minorities, particularly in the sciences, engineering, mathematics and computer science. Their new Research Center for Science and Technology will make a significant contribution to the training of minorities in highly technological research, thereby assuring their place in America's future work force.

Thank you for your consideration of this request. I urge your subcommittee to give full consideration to the proposal described in this testimony.

Sincerely,

Wyche Fowler, Jr.

WYCHE FOWLER, JR.
United States Senator

STATEMENT OF THOMAS W. COLE, JR., PH.D., PRESIDENT, CLARK ATLANTA UNIVERSITY

Thank you, Mr. Chairman, for the opportunity to testify before your subcommittee. My name is Thomas Cole and I am President of Clark Atlanta University in Atlanta, Georgia. I am here today to testify on the subject of the fiscal year 1990 appropriations and to seek this committee's support for science and engineering excellence at Clark Atlanta University. Let me also express my sincere appreciation to you for the financial assistance you have provided to Atlanta University in the past.

As you know, in an uncertain world of looming energy shortages, environmental degradation, and shortages of essential materials, the strength of our scientific and technological base is taking on new importance. Expanding energy resources, securing substitutes for rare materials, controlling environmental wastes, enhancing food production, maintaining the nation's security, and other national goals will depend upon state-of-the-art scientific and engineering research and facilities in our nation's universities and industrial and national laboratories.

Yet, our nation's capacity to conduct the high quality research necessary to maintain a competitive position at the forefront of modern science, engineering and technology is threatened by serious deficiencies in our educational system.

Several recent reports on science and engineering education highlight shortages of trained computer professionals and most types of engineers at all degree levels, shortages of high quality faculty to teach science, mathematics, and computer science at pre-college levels, and a 77% decline of mathematics and 65% decline in science teachers being trained between 1971 and 1980.

These problems are particularly acute for minorities. Although by the year 2020 minorities will be one third of the nation, these groups are severely underrepresented among science and engineering university graduates. In 1986-87, for example, only one black American received the Ph.D in computer science. This reality will become a severe handicap for our nation as we enter the 21st century.

In 1964, there were less than 200,000 black students enrolled in the nation's institutions of higher education. Approximately 85% were enrolled in historically black colleges and universities (HBCUs). Today, the number of black students pursuing higher education opportunities is over 1,000,000 with the majority of these students enrolled in predominantly white institutions. Statistics show that predominantly white institutions enroll about 80% of the nation's black college students while historically black colleges and universities enroll the remaining 20%. Yet, the HBCUs graduate more than 40% of all blacks attending college. Black colleges and universities have provided education otherwise unavailable to thousands of able and deserving youths. Furthermore, much of the black leadership in America today is provided by the alumni of these institutions, an important and critical role which has been recognized by several reports, the Congress, and more recently by President George Bush in his February 1989 report to Congress on the education policy and initiatives of his administration.

Both Clark College and Atlanta University, which merged in 1988, have a firm commitment to the education of black Americans. Over the past few years they have initiated several programs to address the underrepresentation of blacks in all fields, but particularly, in the natural sciences and engineering. In addition, in the last seven years, both institutions have made remarkable progress towards a substantive research productivity in the sciences and mathematics.

As part of such efforts, we have conducted a wide range of research in partnership with the federal government, national laboratories and industry. Examples of such research include but are not limited to: synthesis and characterization of liquid crystalline polymers; theoretical investigations of amorphous silicon systems; theoretical investigations of chemisorption on transition metals; computational techniques for dynamic programming analysis of generalized networks; transformational techniques for software development; and biochemical testing of potentially hazardous chemicals for toxicity using mammalian liver cell cultures.

In order to continue and expand advanced scientific research and minority training Clark Atlanta University now proposes to complete construction of the Research Center for Science and Technology (RCS&T).

Working in collaboration with the academic science and mathematics departments, the RCS&T will pursue the following primary objectives: conducting sponsored basic and applied research; educating high-school, undergraduate and graduate students and postdoctoral scholars through formal courses, seminars, workshops, and research; collaborating with scientists from universities, industry, business, and government agencies and laboratories; serving as host during summers or sabbaticals for faculty from historically black colleges and universities and other universities from around the nation and the world; and incubating small high technology firms and companies.

The RCS&T will contain laboratories and support facilities for research in: energy, materials, biotechnology/health and environment, computational and engineering sciences.

The Advanced Materials Program's initial emphasis will be on polymers, ceramics, optical fibers, and alloys. In the polymer area, emphasis will be placed on both functional polymers and high performance polymers.

Functional polymers can be specifically tailored to achieve efficiency in areas such as electronics and biomaterials. However, the fundamental science for the realization of their potential is lacking. We propose to conduct research in areas such as polymers for electronic applications and polymers for biomedical applications, in order to maximize the potential of these important materials.

The increasing demand on materials for high performance in aerospace and military transportation, among other areas, requires research into ways in which high performance polymers and ceramics are capable of satisfying this demand. This research requires blending of different polymers, ceramics and organic composites whose surface and interfacial properties are uniquely controlled. However, the understanding of the science of interfaces is lacking. The programs of interest here, that we propose to research, are polymer blends, advanced thermoplastic composites, ceramics composites and alloys, glass-polymer composites, superconducting materials, and electrets. Furthermore, knowledge gained in this area will also be applicable to the development of biopolymers.

In the field of alloys, research at the RCS&T will be highly focused on residual stress analysis in both alloys and ceramics. This research will be crucial in preventing problems during fabrication or use. Thus, we may be able to prevent commercial aircraft accidents resulting from cracks in fuselage due to residual stress.

The Energy Sciences Program will include many research areas. One of them will be catalysis, a major phenomenon in the processing of fossil fuels such as oil, coal, and gas, which are vital to our national economy and security.

In the past two decades, there has been a rapid growth in the application of catalysts to the conversion of fossil-based fuels, particularly coal, into useful gaseous and liquid feedstocks. In addition, both homogeneous and heterogeneous catalysts have been applied to the synthesis of various organic compounds and polymers, ranging from simple polymer-derived items to high performance aerospace and defense equipment components. However, the full economic impact of many of the catalysts currently in use are not realized because of unresolved fundamental problems which call for substantially more research in this area.

The initial focus of RCS&T in catalysis research will include: homogeneous and heterogeneous catalysis for synthesis of polymers and adhesives; design, synthesis and characterization of coal gasification and liquefaction catalysts; and catalyst evaluation, deactivation and regeneration.

The Health And Environmental Sciences/Biotechnology Program will address the unprecedented national and worldwide concern about environmental degradation caused by hazardous chemical and radioactive wastes and air pollutants.

While environmental degradation is not a new phenomenon, serious problems on a scale previously unkown or ignored have been identified with toxic substances deposited or emitted in the soil, water, and air in the past as well as those continuously deposited or emitted into the ecosystem today. Specific examples of concern are soils contaminated with heavy metals; land disposal sites containing a variety of hazardous wastes; water systems containing toxic organics; effluent water containing high concentrations of minerals; and of course, acid rain and the ozone depletion in the stratosphere.

Until recently, solutions to our environmental problems have focused primarily on technological fixes, mainly on the physical sciences and engineering. In the future, solutions to the formidable environmental problems we now face will demand a careful blending of engineering, the physical sciences, and the biological sciences.

The RCS&T will facilitate this blending of disciplines by emphasizing research areas such as: hazardous waste minimization, reproductive and developmental effects of environmental agents, radionuclide imaging, cytogenetic effects of environmental agents, in vivo heavy metal decontamination, microbial ecosystem development, bioassays and chemical studies of air pollutants, toxic chemical testing and assessment, industrial waste treatment technology, health effect of drinking water contaminants, ecotoxicity and risk assessment, radiation monitoring, and dosimetry.

The Computational Sciences Program will facilitate interdisciplinary research in the computational sciences, which encompasses sub-areas of established scientific disciplines such as computational mathematics, computational physics, computational chemistry, computational hydrodynamics, computational aerodynamics, and even computational linguistics.

The need for scientific computing research cannot be overemphasized. Several national panels sponsored by NSF, DOE, NASA, DOD, and the National Academies of Science and Engineering have recommended increased research and education in universities in computational mathematics, software, algorithms, and architectures; training of mathematicians, scientists, and engineers in the use of advanced computing systems; and increased research and development basic to the design and implementation of new supercomputing systems.

RCS&T research will concentrate on: chaotic dynamics and fractals, stochastic processes, integral and differential equations, atomic and molecular processes, atmospheric processes, artificial/machine intelligence, software engineering, centralized and distributed databases, and neural networks.

The Engineering Sciences Program will engage engineers in private industry, government and national laboratories and research scientists, faculty and students at the RCS&T in the formulation, analysis, and verification of new engineering

approaches that will facilitate the technology transfer of basic scientific products and services to the market place.

New engineering approaches will be researched for innovative concepts arising from applied mathematics, materials science, computer science, biotechnology, health and environmental sciences.

The program will thus promote an "applied" orientation to engineering research in areas such as: process technologies of advanced composite materials; rheo-optical and mechanical properties of polymers, ceramics, and alloys; ceramic technology for advanced heat engines; computational techniques for the design and analysis of controlled structures; flexible structures; smart materials and structures; structural dynamics and control; surface characterization and catalytic activity; clean coal technologies; and robotics.

Construction of the Research Center for Science and Technology began in 1986 but came to a halt because of financial difficulties experienced by Atlanta University. Since then, and in order to strengthen the financial base as well as the educational delivery systems of both institutions, Clark College and Atlanta University merged in 1988.

Clark Atlanta University is now requesting federal support for completion of Phase II. We will share in the cost of this project through a capital campaign drive from alumni, friends, private business and corporations, and will solicit financial assistance from the state of Georgia.

Federal investment in this project will contribute to the future of science and technology in America, to the increased representation of blacks in science education, and to the economic development of Atlanta and Georgia.

STATEMENT OF DR. M. RICHARD ROSE, PRESIDENT, ROCHESTER INSTITUTE OF TECHNOLOGY

Mr. Chairman and Members of the Subcommittee, my name is Rich Rose, and I am the President of the Rochester Institute of Technology, located in Rochester, New York.

Mr. Chairman, the Rochester Institute of Technology is a relatively small institution, but its advanced programs in microelectronic engineering and imaging sciences research make it one of the leading institutions in these fields in the nation and the world. RIT has the nation's most advanced university microelectronics engineering laboratory and semiconductor fabrication facility. RIT's cutting edge research in the areas of lithography for microelectronics and micromechanical devices is supported by virtually every major semiconductor company in the nation. In the field of imaging science, RIT's program of research and education is, arguably, the most advanced in the nation. RIT's imaging laboratories are currently conducting research for the Departments of Defense and Energy in critical areas such as high technology thermal infrared imaging for remote sensing geared toward target recognition, location and assessment.

Mr. Chairman, two years ago, we approached the Congress with a proposal to use the unique and nationally recognized expertise of RIT in the microelectronics engineering and imaging sciences fields to speed advances in the development of technology for the manufacture of microelectronic circuitry. It was our belief that such advances would have broad and important applications in the Department of Energy's atomic weapons research and development program and that the Department would be interested in RIT's capabilities in this area.

Mr. Chairman, Congress agreed to provide $800,000 in the Fiscal Year 1988 Energy and Water Appropriation Bill to the Rochester Institute of Technology for a joint program of research with the Department of Energy. I am pleased to report that in September 1988, after many months of discussion and cooperation the Department of Energy and RIT agreed to a statement of objectives for the research program. RIT researchers in microelectronics engineering and imaging science are currently carry out the agreed upon research program. A copy of the joint Department of Energy -Rochester Institute of Technology research agreement is furnished with this testimony.

Mr. Chairman, the microelectronics engineering portion of the Department of Energy/Rochester Institute of Technology research program focuses on two principal areas of interest to the Federal government and private industry. The development of these research interests at RIT will address a national need for improved processes and technologies in microelectronics manufacturing and in particular the field of microlithography. The focus of RIT's research efforts in manufacturing will be to identify and develop new methods and techniques in the fabrication of integrated circuits which will enable manufacturing systems to become more productive and more cost effective.

With respect to the imaging portion of the Department of Energy/Rochester Institute of Technology research program, research activities will focus on far more than the development of machine vision to facilitate production or "microlithography" to improve semiconductor capabilities. During the Department of Energy's evaluation of RIT's imaging research capabilities, Department representatives were impressed with our imaging scientists' work in highly specialized areas of remote sensing and found that this research had much broader application to the Department of Energy's atomic weapons research activities. As a result, with the encouragement of the Department of Energy, the imaging science portion of the DOE-RIT research program was expanded to explore the development generally of imaging techniques to be used for treaty verification and target recognition, location and assessment.

Mr. Chairman, we believe that the Department of Energy is pleased with this cooperative research effort and we expect that our research will yield important results. An RIT research team will soon visit the Los Alamos and Sandia National Laboratories at the invitation of the Department of Energy to inspect ongoing federal research activities in these areas and to discuss the continuation of the project.

Mr. Chairman, RIT is requesting that the Subcommittee make available $1,620,000 in FY 1990 for the purpose of continuing and expanding the DOE-RIT research program in microelectronics engineering and imaging sciences.

In microelectronics, RIT scientists will focus their FY 1990 research on various aspects of microlithography, the manufacture of silicon integrated circuits and the development of integrated micromechanical devices and sensors.

In imaging sciences, RIT researchers will expand their work into several areas which will contribute to the mission objectives of the Department of Energy. Specifically, the FY 1990 RIT imaging research will focus on issues related to components in the imaging chain needed for segmentation and classification of images for target detection. The increasingly complex problems associated with mobile missiles, counter measures, and treaty verification require a more rigorous understanding of the end-to-end image chain for proper information extraction. Other tasks address issues associated with machine vision and imaging systems applicable to materials handling or inspection in an energy or materials production environment. Also included are some more fundamental imaging science or electro-optical tasks which would have broader application across many areas, including nuclear medicine, guidance and control, image processing, and inspection.

Mr. Chairman, I have also furnished with this testimony further detail on both the proposed microelectronics engineering and imaging science research programs from FY 1989, and their associated costs totaling $1,620,000. It should be noted that RIT expects to once again negotiate an agreement with the Department of Energy on the precise scope of work for the continuation of the research program. This proposal will serve as a starting point for those discussions.

Mr. Chairman, RIT greatly appreciates the courage which the Congress has shown in making an investment in an institution which, although not well known, has a unique expertise which can contribute greatly to the Department of Energy's research and development mission. We are hopeful that you will, even in these times of great austerity, be able to continue what promises to be a most productive and mutually beneficial research partnership between the Department of Energy and the Rochester Institute of Technology.

Thank you, Mr. Chairman.

ROCHESTER INSTITUTE OF TECHNOLOGY

A PROPOSAL

FOR CONTINUATION OF THE
DEPARTMENT OF ENERGY - ROCHESTER INSTITUTE OF TECHNOLOGY
RESEARCH PROGRAM IN MICROELECTRONIC ENGINEERING
AND IMAGING SCIENCES

FISCAL YEAR 1990

I. INTRODUCTION

In 1987, the Congress directed that $800,000 be made available to the Rochester Institute of Technology to initiate a joint program of research with the Department of Energy in microelectronic engineering and imaging science. The research program was to be designed to support the Department's research mission in the atomic weapons research and development program. The grant was made to RIT in recognition of its national expertise in the high technology fields of microelectronic engineering and imaging science.

In September 1988, the Department of Energy and RIT agreed upon a program of research in these areas which would be conducted in calendar year 1989. RIT researchers are currently engaged in the agreed upon research activities.

Department of Energy officials have visited RIT and have been favorably impressed by the institution's research capabilities in microelectronic engineering and imaging sciences. The Department appears confident that RIT's research program will make a significant contribution toward its research mission. RIT scientists will soon visit Sandia National Laboratory to review related DOE research activities and discuss the continuation of RIT's current research program.

The Rochester Institute of Technology is proposing that the Congress provide FY 1990 funding in the amount of $1,620,000 to continue and expand the DOE - RIT cooperative research program begun in FY 1988. This document contains an outline of the proposed research activities for FY 1990 and a breakdown of the associated work.

II. PROGRESS REPORT

ROCHESTER INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ENERGY GRANT FOR
MICROELECTRONIC ENGINEERING AND IMAGING SCIENCE

RESEARCH AND RELATED ACTIVITIES

After several months of negotiations between RIT and the Department of Energy, Office of Weapons Research and Improvement, the university and DOE reached agreement on a statement of grant objectives which enabled us to proceed with the grant. In September 1988, RIT received a grant award noticed from DOE for the $800,000 grant.

The grant objectives include the following:

Microelectronic Engineering

The microelectronic engineering program at RIT is developing and strengthening its research interests in two principal areas which relate to the activities and interests of the federal government and private industry. The development of these research interests at RIT, within the Center for Microelectronic Engineering, will address a national need for improved processes and technologies in microelectronics manufacturing and in particular the field of microlithography. The focus of RIT's efforts in manufacturing will be to identify and develop new methods and techniques in the fabrication of integrated circuits which will enable manufacturing systems to become more productive and more cost effective.

1. Installation of Electronic Beam Lithography System

   This lab will add an important dimension to the RIT educational programs and research capabilities in this field. In particular the feature size of integrated circuit devices can be made as small as 0.2 microns using electron beam technologies. This capability will allow RIT to investigate maskmaking for submicron feature size very large scale integrated circuits (VLSI), microwave monolithic integrated circuits (MMIC) and very high speed integrated circuits (VHSIC). In addition x-ray lithography will soon become a valid manufacturing technology as both laser and synchrotron sources are developed. Submicron maskmaking for x-ray lithography is the single most important technology barrier. The electron beam lithography laboratory will make it possible to do research in these areas.

   Another application of the electron beam laboratory that will be utilized extensively is the ability to support application specific integrated circuit (ASIC) endeavors. RIT will be able to generate masks for manufacturing hundreds of different integrated circuits each year. This will provide fast turn around prototype integrated fabrication for researchers and force RIT to address microelectronics manufacturing problems.

2. Microlithography, Materials Evaluation and Process Development

   The work supported by the DOE grant in this field will result in:

   a. A better understanding of deep UV, electron beam and x-ray resists.

   b. The development of electrical and optical techniques for the evaluation of lithographic performance.

   c. The development of lift-off, image reversal, multilayer, pseudo monolayer and bilayer resist technologies.

   d. The evaluation of polyimides for protection of integrated circuits from radiation damage, as well as the use of polyimides for interlevel dielectrics, planarization, ion implantation, and plasma etching.

3. Development of instructional videotape for use in orientation of new personnel to the proper utilization of clean room facility.

   The RIT Center for Microelectronic Engineering is a unique educational facility in that it was designed for multiple purposes including undergraduate and graduate instruction and applied research in microelectronic engineering. As an educational laboratory, which includes 10,000 square feet of class 100

clean room, the Center provides a unique opportunity for hands on instruction not only in the fabrication of integrated circuits but also in the proper utilization, operation and maintenance of a clean room environment.

Government and industry have a continuing need for efficient, cost effective and technically appropriate means of orienting new personnel to the unique and specific maintenance and operation requirements of clean room facilities. Such requirements include handling of proper attire, handling of lab equipment and materials and operation and proper maintenance of air handling equipment.

RIT proposes to develop an instructional videotape which will cover the above mentioned topics. RIT's expertise in instructing undergraduate and graduate students in the proper use of clean room facilities will be a valuable tool in developing such a tape which can be used in a wide variety of settings and for individuals with diverse backgrounds and levels of expertise. This videotape will be the first in a series of continuing education programs for use by students (RIT and others) as well as industry and government users.

Imaging Science

The tasks proposed emphasize the development of techniques for extraction of information from images. Whether the concern is treaty verification, remote inspection, machine vision to facilitate production or microlithography to improve semiconductor capabilities, the fundamental need to extract information is critical. The proposed tasks emphasize development of techniques for automated information extraction but also recognize that much work still requires considerable human interpretation. Thus the proposed tasks represent a combination of machine and vision-oriented efforts focused on development of improved methods for extraction of information from images.

1. Evaluation of feature space optimization techniques for target detection.

   Numerous image derived features are often chosen in an ad hoc fashion. A method for selection of features which will optimize target selection for a given target, background, sensor, scale combination has been identified. The potential utility of this technique needs to be addressed as does the robustness of the features chosen to variations in taking conditions (i.e., scale, view angle, atmospheric conditions, etc). This effort would emphasize the identification and implementation of feature generation algorithms.

2. Thermal infrared scene simulation and evaluation of realtime infrared scene generation techniques for evaluation of automatic target recognition systems.

   Thermal infrared sensing systems offer tremendous potential for day/night imaging and potential target/background cues beyond those available using more conventional imaging systems. Infrared simulation models have been developed at RIT to predict radiance at a sensor given target temperature and optical properties. This effort involves refinement and evaluation of the fidelity of these models with particular emphasis on features which would be of use, for example, in treaty verification.

   Once scenes can be digitally simulated, the question arises of whether they can be simulated in a true thermal sense for testing and evaluation of actual IR sensors, (including the optics and detectors). This effort will evaluate the potential of one approach with emphasis on the potential thermal contrast, resolution, and flatness of field obtainable.

3. Techniques for measurement of the optical properties of materials.

All forms of remote measurement, whether it is for satellite sensing or close range inspection and manipulation, require knowledge of the optical properties of the materials under study. Sensing systems are growing more sophisticated and our demand on them for more automated analysis of subtle problems is increasing. In response to this, techniques and standards for measurement at broader wavelengths and over a range of view angles are required. This task addresses two aspects of this problem. The first involves the development of standards for spectral (0.4 - 0.7) bidirectional reflectance distribution functions. These standards are necessary if meaningful data bases of material signatures are to be developed for automated machine identification. The second aspect involves development of improved techniques for measurement of the longwave infrared optical properties of materials with emphasis on real world materials. This effort includes development of instrumentation capable of both normal and angular emissivity of surfaces in both the laboratory and field.

4. Visual target detection and recognition; effects of instrumental image quality and target characteristics.

The interaction between visual instrument and observer is not well understood because of the complexity of the eye and the coherent coupling between instrument and eye. Instrument and observer must be considered as a single system, since the eye may partially compensate for some instrumental defect or vice versa. The effects of instrumental observation and accommodation function are of primary concern. The visual tasks involve detection of low-contrast targets in a structured or uniform environment and recognition of high-contrast detail.

5. Signal Processing

a. Spectrum estimation of noisy temporal signals

Spectrum estimation of noisy temporal signals is a classic signal-processing problem. A number of estimation algorithms have been developed, including periodograms, the Blackman-Tukey method, and Autoregressive-Moving Average (ARMA) models. We are investigating a means of applying ARMA models to 1-D transformations of multidimensional data. The 1-D estimates are combined to generate a model of the 2-D spectrum. Preliminary results have demonstrated the applicability in simple cases, but limitations of the technique must still be investigated.

b. A method of computing the complex cepstrum of multidimensional signals

Some preliminary investigations of the techniques for multidimensional signals have been performed with mixed results. We are investigating a means for computing the cepstrum of the projections of multidimensional signals. Its applicability has been demonstrated for simple signals, but limitations must be investigated.

c. "Real-Time" adaptive filtering of two-dimensional signals

Adaptive digital filtering of temporal signals is a common technique for removing unwanted but correlated signals. Preliminary studies

show that the technique is directly applicable to projections of multidimensional data and should allow rapid (e.g. video-rate) adaptive filtering if projections are taken optically and reconstructed by a hybrid electro-optical system.

6. Characterization of the limits of the human visual systems ability to chromatically adapt for improving color target recognition algorithms.

It is not know to what extent the visual system will fully adapt to spectral radiance distributions and luminance levels typical of outdoor illumination within the photopic range of the visual system. Thus, this effort involves the

III. MICROELECTRONIC ENGINEERING

RESEARCH DIRECTIONS IN LITHOGRAPHY FISCAL YEAR 1990 PROPOSED PROGRAM OF ACTIVITY

Rochester Institute of Technology (RIT) has been deeply involved in applied research in lithography for the manufacture of integrated circuits for the past 10 years. RIT has obtained an international reputation for its educational programs in microelectronic engineering. The United States' only ABED accredited undergraduate program in Microelectronic Engineering now has 300 undergraduate students. The new Master of Engineering in Microelectronics Manufacturing has also been very successful and will have 20 full time students in the Fall of 1989. These ambitious educational programs are paralleled by the development of a semiconductor fabrication facility that is unequaled at any single university in the United States and the development of an applied research capability that in its infancy shows promise of a national caliber research contribution in the area of lithography for microelectronics and micromechanical devices.

General Research Directions

The microelectronic engineering program at RIT has identified several areas in which it will develop as primary research objectives. These are:

1. Lithography

   Electron Beam Maskmaking

   Submicron Electron Beam Imaging

   Resist Material Evaluation

   Direct Write on Wafer

   X-ray Maskmaking

2. Manufacturing of Silicon Integrated Circuits

   Process Development - CVD, Plasma Etching

   Process Integration - Advanced NMOS, CMOS and Bipolar processes, mixed analog and digital

   Robotics, automation, work-in-progress tracking, scheduling

Manufacture of Application Specific Integrated Circuits

3. Integrated Micromechanical Devices and Sensors

Integrated Chemical Sensors

Mechanical Sensors

These areas will be augmented by work in electro-optic devices, photonics and G&As integrated circuits. However, these efforts need to be restrained to prevent distraction from the three main areas listed above.

Within t 648Xaed lithography there are many areas that we will be working in. All of these areas are interrelated as well as related to the other two areas of focus. For example, the area of resist material evaluation and modeling applies to areas of electron beam lithography, deep UV lithography, Submicron imaging, etc. and must be understood to develop new lift-off processes for manufacture of silicon sensors.

Research Directions in Lithography

Electron Beam Maskmaking

Electron beam lithography is the pivotal technology for all types of lithography. Optical lithography (Deep UV) will use photomasks on quartz made by e-beam technology. E-beam direct write on wafer is obviously dependent on development in e-beam lithography. X-ray lithography will use masks made by e-beam lithography.

ASIC Capability

One of the main areas for the application of electron beam maskmaking is in making masks for ULSI application specific integrated circuits. The details of networking, transcription and pattern verification need to be mastered. Currently there are still a lot of developments in this area that need to be addressed if fast turn around, working aSIC devices are to be realized.

Submicron Electron Beam Imaging

The investigation of submicron e-beam imaging will involve the study of scattering and proximity effects. Low energy electron dose, thin resist coatings and organic resists may be best suited for this application. Plasma etching of chrome may be required to transfer the patterns.

Resist Material Evaluation

The evaluation and modeling of resist materials is especially important as the lithographic dimensions go submicron. Resist materials are characterized by their sensitivity, contrast and performance. Using RIT's Perkin Elmer Development Rate Monitor these parameters can be obtained for the new resist materials now becoming available. We propose to evaluate the following materials and processes:

Deep UV Materials (Eximer Laser Exposure 248nm)

Aqueous Contrast Enhancement Materials

Solvent Based Electron Beam Materials

Aqueous Based Electron Beam Materials

Reversal Process

Lift Off Process

Direct Write on Wafer

Direct write on wafer will be investigated using RIT's MEBES electron beam tool. To do this a special wafer holder will be obtained. Alignment, metrology, topology and feature related scattering will be investigated.

X-Ray Maskmaking

Soft x-ray masks can be made using layers of Boron Nitride or silicon or silicon carbide and absorber films such as gold imaged directly (similar to direct write on wafer) using RIT's MEBES capability. To do this work RIT will need to obtain a special substrate holder for these mask blanks for the MEBES system. Sputtering capability for boron nitride and gold will need to be developed. The evaluation of these masks will be done by developing contacts with industry. In Rochester we have Hampshire Instruments, Inc. a manufacturer of x-ray exposure systems. In nearby East Fishkill, New York, IBM has a new facility that will have x-ray exposure capability. Other alternatives are available as well.

Specific Tasks for October 1, 1989 to September 30, 1990

Tasks 1: Electron Beam Maskmaking

The MEBES system installation is nearly complete at this point. The class 10 clean room enclosure is essentially finished and the machine has been moved in. It will take until the beginning of summer to finish the installation of the motor-generator set and to qualify the room for temperature and class 10 certification. The MEBES itself will be brought up over the summer and will be writing masks before Fall of 1989. To complete the entire operation the chemical process for developing e-beam exposed photomasks needs to be brought up. This means that plate processing equipment needs to be obtained, installed and made operational and used. RIT has received one APT plate processing machine as a donation from Perkin Elmer. We have also received 120, 5" x 5" blank quartz photoblanks from Digital Equipment Corporation. These will be coated with chrome and then coated with the e-beam resist of choice. The chrome coating technology needs to be developed and may be done outside of RIT, or by evaporation or by DC magnetron sputtering at RIT. (RIT has an old Balzars DC magnetron sputtering system that may be able to be repaired for this project) Spin coating technology for 5" x 5" quartz photoblanks needs to be developed. A spinner has been purchased for spin coating large substrates up to 5" by 5". This will be used for 5" wafers and photomasks. A Nanospec film thickness measurement system was donated by Nanometrics Inc. and will be used to evaluate coating thickness and uniformity before and after development. Soft bake of the e-beam resist will be done by a forced air convection oven or by hot plate. A Brewer Scientific Inc. hot plate has been purchased and will be used for investigating this type of soft bake. Finally chemical etching for image transfer to the chrome thin film needs to be optimized.

With hard work RIT should have all of the above goals obtained before October of 1989.

Tasks 1 - Part 1 is basically to continue from this point to develop technology in the area of electron beam maskmaking. The techniques developed above will be further optimized by statistical design of experiments. The studies will be expanded to include a variety of electron beam resists. We are especially interested in aqueous based e-beam resist materials and will develop processes for these materials.

Task 1 - Part 2 We will develop the capability for producing photomasks to support the foundry operation at RIT. This will involve making photomasks for VLSI NMOS and CMOS application specific integrated circuits designed by foundry customers. The major additional accomplishment will be in the area of networking pattern verification, and mask inspection. Inspection equipment such as a KLA die to die and KLA die to data base equipment will be sought as a donation and funds for this task will be used for installation and maintenance.

Task 2: Sub Micron Electron Beam Imaging

In this area we will develop RIT's capability for modeling submicron lithography. RIT is working on transferring PROLITH, a lithography modeling program written by Dr. Chris A. Mack of the U.S. Department of Defense, to the DEC VAX environment. We are also working with Berkley SAMPLE and Perkin Elmer PROSIM software.

The only deliverable for this area for the 89-90 time frame will be the development of an eximer laser (248nm) exposure system for preparing samples for evaluating deep UV resists using the Perkin Elmer Development rate monitor. This will involve a laser, and an X-Y table controlled by a personal computer so that wafers can be exposed with stripes of different dose. We will use the results of this experiment to identify optimum exposure and develop conditions for this resist material. We will use the software mentioned above to predict submicron photoresist image profiles and compare these profiles to those obtained experimentally by contact or projection lithography using masks made by e-beam technology. (RIT does not have an eximer laser projection stepper but we may be able to have access to one for this experiment.)

Task 3: Resist Material Evaluation

We plan to use RIT's Perkin Elmer Development Rate Monitor for the evaluation of the e-beam resist materials and Deep UV resist materials as mentioned above. We also plan to evaluate conventional resist materials and advanced resist processes. The major exposure tool for this work will be RIT's GCA 4800 stepper. Processes that use Contrast Enhancement Materials, Lift-off, Dyes, and Reversal will be studies.

Task 4: Direct Write on Wafer

To do basic electron beam direct write on wafer at RIT we will need to obtain a special holder for wafers and address alignment and registration problems associated with using the MEBES I as the exposure tool. We will investigate these problems and make the necessary modifications during 89-90. The purchase of a whole wafer Scanning Electron Microscope is included as part of this task but will be useful for inspection of other tasks.

Task 5: X-Ray Maskmaking

To do basic x-ray maskmaking at RIT the capability for sputtering materials such as Boron Nitride and silicon carbide will need to be developed. RIT does not have RF

sputtering capability. Part of the proposed budget will provide RF sputtering capability for this task. This capability will be combined with RIT's chemical vapor deposition capability and experience in etching of single crystal silicon to make photomasks with gold absorber, and membrane of boron nitride, silicon carbide or silicon.

IV. IMAGING SCIENCE RESEARCH TASKS

ADDRESSING THE DEPARTMENT OF ENERGY'S MISSION FISCAL YEAR 1990 PROPOSED PROGRAM OF ACTIVITY

Imaging Science is becoming an increasingly powerful tool in many areas of science and technology. Advances in detector technology, microelectronics, materials science, and information processing have made it possible to utilize imaging and electro-optical approaches to address increasingly complex and often totally new problems. The tasks described below represent areas where imaging may make significant contributions to subject areas or mission objectives under the Department of Energy's charter.

Several of the tasks address issues related to components in the imaging chain needed for segmentation and classification of images for target detection. The increasingly complex problems associated with mobile missiles, counter measures and treaty verification require a more rigorous understanding of the end-to-end image chain for proper information extraction. Other tasks address issues associated with machine vision and imaging systems applicable to materials handling or inspection in an energy or materials production environment. Also included are some more fundamental imaging science or electro-optical tasks which would have broader application across many areas, including nuclear medicine, guidance and control, image processing and inspection.

Task 1: Thermal Infrared Image Generation and Signature Analysis

Task 1a: Evaluation of sensor-in-the-loop IR scene simulation approaches

In order to effectively evaluate end-to-end characteristics of IR sensor systems, it is necessary to image scenes with the radiation characteristics of the real world. One way to do this is to actually fly the system. However, modern IR systems typically include automatic target recognition systems that are impacted by season, time of day, scenario, and atmospheric effects making flight testing against all possible scenarios too costly. Thus, self-radiant scene simulation becomes a necessary alternative. These simulators are designed to generate scenes at a rate compatible with the imagers real-time acquisition rates and to mimic spatially and spectrally the radiant signal a sensor would see in flight, thus providing a potential for end-to-end sensor evaluation.

A baseline system has been assembled using an extended laser light source, a spatial light modulator (which forms the image), a visible to infrared transducer (which converts the laser modulated visible image to a longwave infrared self-radiant image) and a thermal infrared imaging sensor. The ongoing effort is aimed at evaluation of the radiometric, temporal and spatial characteristics of the system and, therefore, the types of sensor for which this approach would be applicable. Future efforts would concentrate on development of improvements to the system, as well as consideration of alternative components or approaches to obtain improved system performance. Particular emphasis will be placed on efforts aimed at generation of

larger (i.e more pixels) higher resolution systems capable of simulating images for higher resolution and wider field-of-view sensors. Efforts under this task will also be directed at generation of improved scene generation approaches to better simulate real-world scenes.

Task 1b: Thermal infrared signature assessment

Thermal infrared imaging systems are extremely attractive for target location because of their day-night capabilities. However, they are extremely complicated images in terms of predicting signatures because the image is a function of solar loadings, thermodynamic and optical properties of the target and backgrounds, atmospheric conditions, and sensor characteristics. As a result, automatic scene segmentation is extremely difficult because of dramatic changes in the appearance of the same object under different imaging conditions. To overcome these limitations, algorithms and processors are being developed that incorporate thermodynamic and atmospheric models, as well as the optical properties of materials. The aim of this approach is to have algorithms that will adapt to the taking conditions such that the radiance level and contrast of scene elements can be anticipated. This effort will be directed at evaluation and refinement of some of the models used in developing these algorithms. In particular, models for prediction of atmospheric effects will be compared against empirical measurements of atmospheric effects. This will include flight tests with IR imagers to test the techniques. Also included under this effort will be evaluation of the utility of thermodynamic models in predicting the radiance field propagated toward the sensor. These models coupled with the atmospheric models, provide information on the error bounds which can be tolerated by the scene segmentation and classification algorithms.

Task 1c: Infrared multispectral signature assessment

Multispectral image analysis techniques have proven extremely powerful for image segmentation and classification in the visible and near-infrared spectral regions. Recent advances in sensor technology have made it possible to consider multispectral image acquisition and analysis within the thermal infrared windows. This means that multispectral sensing could be performed day and night. To date, only very restricted data bases exist on the spectral signatures and signature extraction techniques applicable in the thermal infrared windows. This task will involve laboratory studies of the spectral signatures in the thermal infrared windows, as well as an investigation of spectral analysis techniques applicable to thermal infrared multispectral images. These analyses will concentrate on images acquired of the Stockbridge, New York test range with a thermal infrared multispectral scanner. It is expected that by combining thermal and spectral data more accurate segmentation and material identification algorithms can be developed.

Task 2: Use of a Frequency Modulated Pulse to Characterize Random Scattering Medium

Wave propagation through random media is a general branch of science that has applications in many different fields. Acoustic propagation in the ocean is an example where the randomness of the medium originates from the fluctuations in velocity of sound propagation. Ultrasonic imaging in medicine is another example where the random medium is the inhomogeneous tissue structure (random variations of compressibility). When such a medium, for the purpose of imaging, is probed by a short pulse of sound wave, the resulting backscattered or reflected signal carries a signature of the fluctuations or random structure of the medium. These fluctuations can be used to infer statistical and physical characteristics of different media. However, the statistics of fluctuations also

depend on the resolution capability of the probe or the imaging system. Ability to change the resolution cell volume may provide an additional flexibility in the characterization of the random medium.

This task proposes the use of an ultrasonic frequency modulated pulse for characterization of random media. The use of such a pulse gives the ability to change the resolution cell volume in various ways. The experimental technique for imaging resolution objects has already been developed. This new effort will allow these concepts to be applied to the problem of characterization of random media and will serve as a model study in answering basic questions.

The main objectives of the experimental and theoretical work are to:

1. Through the use of first order and second order fluctuation statistics to characterized the random media.

2. Evaluate the usefulness of frequency modulated pulse in changing the resolution cell volume and its effected on statistics of fluctuations.

3. Evaluate the usefulness of morphological image texture characterization in classifying the structure of the random medium.

Significance

Characterization and classification of seabeds by SONAR is important from the point of view of energy resource development. If the scattering structure of the beds is below the resolution capability of the imaging system, the received signal is a quasi-harmonic stochastic function of time. The problem of analyzing the statistical nature of this signal and using it to characterize the seabeds falls squarely within the domain of the work proposed here. The signal processing techniques developed can be extended to SONAR or SEISMIC exploration data analysis.

The wave nature of the energy used in imaging is fundamental to any imaging task at hand, whether it be RADAR, SONAR or INFRARED detection for military purposes or ultrasonic imaging in a laboratory setup for experimental convenience, its relevance should be viewed in the above-mentioned context.

Task 3: Adaptive Techniques for Real-Time Vision Systems

Vision systems provide sensory input for automatic systems, such as those which may be used in hostile or remote environments, a typical example of which may be nuclear reactors for energy production.

The basic elements of a vision system are sensors, information processors, and control systems. The performance of current systems is inadequate because of shortcomings in all these critical elements. Sensors require feedback control to extend their dynamic range and adapt to changes in environmental and imaging parameters. More sophisticated information processing is needed to recognize objects and hazards in the operating environment. System control is needed to carry out fusion of sensor information, planning of actions, and accomplishment of tasks.

Limitations in sensors are observed as inability to react to rapid changes in illumination intensity and other imaging parameters. Information processing and control use low-level algorithms but do not exploit the capabilities of artificial intelligence.

Task 3a: Real-time adaptive control systems

We propose the development of real-time adaptive algorithms to sense changes in environmental and imaging conditions. These algorithms will provide the basis for feedback control systems which will automatically adapt the vision system and ensure the system performance is optimized. The initialization and real-time calibration of the vision systems will employ artificial intelligence in the adaptive algorithms.

The prototype adaptive algorithms developed in Task 3a will be enhanced and optimized by employing artificial intelligence techniques to create high-level image processing algorithms.

Task 3b: Artificial intelligence image workstation

Vision systems must have the ability to recognize objects. Current systems make use of pattern matching but do not achieve object recognition or any level of understanding of the image input. This is similar to the state that speech understanding was in until object-oriented computer systems were developed to assist research programs. We propose developing an image understanding workstations that will enable the development of high-level image processing algorithms and parallel architectures for real-time machine vision. The system will support incremental prototyping and extensive code re-use to improve software productivity.

To image radioactive objects, normal imaging elements (e.g. lenses) are impractical. Coded apertures are often used but suffer from the fact that the optimum code differs in different objects. To improve the quality of images for a machine vision system, it is necessary to adapt the code to the object field.

Task 3c: Adaptive sensors for image acquisition

As the imaging architecture changes the image reconstructive algorithms must be adapted as well. Reconstruction algorithms will be investigated, along with feedback systems to control and optimize the imaging parameters.

Task 4: Polarization Preserving Ring-Resonators for Optical Computing, Inertia Navigation and Oil Drilling

This task will investigate the potential of polarization-preserving fiber ring resonators for:

1. Compact, medium-accuracy gyroscopes (short flight inertial navigations, oil exploration)

2. Optical signal processing/communications (dual notch/comb filters, recirculating delay lines, and novel response characteristics).

Filter optic gyroscopes for inertial navigation are reaching maturity. The most successful gyro type for precise navigation is the passive long-length Sagnac. However, short flight, medium accuracy applications may well be satisfied by passive ring resonator structures. Successful operation of passive resonator fiber gyros has been recently

demonstrated in the literature. The advantage of the resonator lies in the fact that it uses only a few meters (or tens of meters) of fiber, compared to hundreds (or thousands) of meters for the Sagnac interferometer. The cost of polarization-preserving fiber is several dollars per meter, therefore substantial cost savings can result. Furthermore, wrapping only a small length of fiber around a former in a bifilar winding (required for thermal compensation) is far easier than wrapping a thousand meters. This practical consideration is not mentioned in the literature, but experience has shown it to be the most critical aspect of making a fiber gyro. Another advantage is that miniaturization is easier with a short length of fiber, since it can be wrapped around a small former. This offers a potential use in oil drilling applications. For optical computing applications, ring resonators offer unique possibilities; they do not compete with other technologies. Polarization preserving resonators offer the potential of double information capacity and novel polarization-multiplexed configurations.

Preservation of the input state of polarization is necessary for all of the above cases. However, because polarization preserving couplers have not been widely available, most studies to date have used ordinary single mode fiber with additional polarization controllers, which add bulk and complication. This effort will undertake a thorough analysis (theoretical and experimental) of the potential of polarization preserving fiber and couplers for the above-mentioned applications.

Task 5: Image Processing

Task 5a: A high-speed hybrid image processing system incorporating coordinate transformations

A hybrid optical-electronic-acoustic system is proposed to implement the linear image processing algorithms in near-real-time (i.e. at video rates). The processing algorithms to be implemented include fourier transformation, adaptive image filtering, image spectrum estimation, and image cepstrum analysis. The system will have applications in processing imagery obtained remotely in a hostile environment, e.g. in regions of intense radiation and in "real-time" processing of coded-aperture imagery in nuclear medicine and in filtering speckle from coherent imagery (i.e. in diagnostic medical ultrasound). An optical scanner converts 2-D images to 1-D signals which are processed by 1-D signal processing devices (e.g. surface-acoustic-wave or charge-coupled--device filters). The processed images will be displayed by a hybrid electro-optical system.

Task 5b: Image segmentation and classification by local morphological size distributions

Targeting information can be extracted from an image by generating derived images which accentuate certain aspects relating to the target. Decisions can then be based upon analysis of the derived images.

Morphological granulometries give rise to size distributions containing textural information. The present investigation involves an adaptation of the method that is appropriate to segmentation and classification.

Rather than construct a single size distribution based on the entire image, local size distributions are computed over windows within the image. These local distributions lead to texture-based local statistics at pixels within the image. Segmentation techniques can be applied to the resulting moment images, the result being segmentation of the original image. By choosing various structuring-element sequences and moments, each pixel can be assigned a feature vector based upon local texture. Pixel classification results from comparing the feature vector with stored vectors from test images.

Task 6: Imaging Spectrometer for the Spectral and Spatial Characterization of Scenes

Currently, two distinct types of metrological devices are used to characterize the spatial and spectral properties of materials and scenes in the visible wavelength range. Spatial attributes are recorded using photographic or machine vision techniques. If they are multispectral, the bandwidths are quiet large in the neighborhood of 120nm. Spectral attributes are recorded using spectroradiometers or spectrophotometers. These devices are only capable of measuring homogeneous materials, usually in laboratory environments. In order to record both properties, extensive measurements and calibrations are required, particularly since many materials in real scenes have spectral properties which vary as a function of illuminating and viewing geometries.

It is proposed to design and build a laboratory machine vision system which captures and stores narrow-band spectral information within the visible region of the electromagnetic spectrum. The design approach is to optimize a monochrome machine vision system for photometric response, photometric linearity, dynamic range, and pixel independence. A monochromator will be designed to rotate in synchronization with frame rates enabling the capture of narrow-band image information.

This device will have significant application in target recognition and classification of materials in situ with the implementation of this technology to field instruments.

IV. BUDGET

DEPARTMENT OF ENERGY/ROCHESTER INSTITUTE OF TECHNOLOGY MICROELECTRONIC ENGINEERING AND IMAGING SCIENCE COOPERATIVE RESEARCH PROGRAM

FISCAL YEAR 1990

I. Microelectronic Engineering Activities

Maintenance - P-E MEBES System @ $7,000/month	$84,000
Support for E-Beam Technician (Salary and Benefits @ 25%)	$25,000
Three Graduate Assistantships (MS Level @ $15,000 each)	$45,000
50% Support for Professor and Director of E-Beam Laboratory (Salary and Benefits @ 25%)	$50,000
Supplies and Expenses related to E-Beam Lab	$10,000
Travel, Telephone, Publication Costs	$10,000
Secretarial Assistance @ 50% (Salary and Benefits @ 25%)	$ 8,000

	Equipment Purchase, Installation, Refurbishing	
	RF Sputtering	$100,000
	Mask Comparator	$ 50,000
	Mask Inspection (Installation and service on Donated Equipment)	$100,000
	Whole Wafer Scanning Electron Microscope	$100,000
	Plate Processing Equipment	$ 40,000
	Pattern Verifier (Installation of Donated Equipment)	
	SUBTOTAL	$632,000
II.	IMAGING SCIENCES	
	Tasks	
	Task 1a	$112,000
	Task 1b	$ 77,000
	Task 1c	$171,000
	Task 2	$ 85,000
	Task 3	$186,000
	Task 4	$ 50,000
	Task 5a	$ 86,000
	Task 5b	$ 87,000
	Task 6	$ 89,000
	General Computer and Imaging Processing	$ 45,000
	Facility Support	
	TOTAL	$988,000
	TOTAL PROGRAM	$1,620,000

STATEMENT OF THE AMERICAN PUBLIC POWER ASSOCIATION

The American Public Power Association (APPA), the national service organization representing more than 1,750 local, publicly owned electric utilities throughout the country, submits this statement to the Appropriations Subcommittee on Energy and Water Development concerning FY 1990 appropriations.

POWER MARKETING ADMINISTRATIONS

This subcommittee is very familiar with repeated Executive Branch efforts to 'privatize' the federal power marketing administrations (PMAs). APPA appreciates the subcommittee's past leadership in prohibiting the expenditures of funds to study the sale of the PMAs (Section 208 of P.L. 99-349).

APPA continues to oppose the sale of the PMAs, believing it would: escalate electric rates and disrupt the economy of several regions of the county; eliminate a dependable source of revenue to the Treasury without reducing the burden of the deficit; threaten the power supply of over 1,100 consumer-owned utilities and gut electric utility competition; and disrupt the integrated management of the nation's multipurpose water projects.

The Administration's current privatization proposal calls for selling the Alaska Power Administration during fiscal year 1990 for $85 million. The Alaska Power Administration was not included in Section 208 of P.L. 99-349, and that proposal has progressed through the administrative process. The budget also proposes sale of 'selected sub-systems' of the other PMAs during the next several years. APPA believes Congress should again reject any effort to divest the federal power marketing program.

The Administration's fiscal year 1990 budget also calls for radical and costly changes in PMA repayment policies. The Administration proposes the repayment of all outstanding PMA debt on a straight-line amortization basis at current market interest rates. This change is like a banker unilaterally substituting an 'uncapped' adjustable rate mortgage – starting at today's interest rates – for a homeowner's fixed, low-interest rate mortgage because economic conditions have changed and the bank wants more money.

The Administration budget assumes nearly $1 billion in fiscal year 1990 from this repayment acceleration proposal. However, as recognized in the Congressional Budget Office baseline assumptions, it is administratively impossible to implement this proposal and generate any additional revenue in this timeframe.

The following adverse consequences for consumers, national energy policy, the U.S. Treasury, national economic competitiveness, and local economic health would result if the PMA repayment acceleration proposal were adopted:

- drastic rate increases for federal power customers, including increases of 80 percent for the Alaska Power Administration, 35 percent for the Bonneville Power Administration, 60 percent for the Southeastern Power Administration, 85 percent for the Southwestern Power Administration, and 57 percent for the Western Area Power Administration.

- federal power rates would fluctuate wildly as interest charges on all outstanding debt are recalculated each year to meet the market interest rate.

- the flexibility contained in current repayment policies, which is necessary to meet the varying hydrologic conditions, would be sacrificed; federal power customers would be penalized when low water years preclude them from meeting their repayment obligation.

- the drastic price increase for federal power that would result from repayment acceleration would spur local inflation, regional income loss, and reduction in industrial competitiveness; it is estimated that in the Pacific Northwest alone employment would be reduced by 13,400 jobs, income would be cut by $265 million, and state and local tax receipts would be reduced by $32 million.

- decreased U.S. Treasury receipts could result from enactment of this proposal; there is a market for federal hydropower only so long as it is competitively

priced; and the rate increases resulting from enactment of the repayment acceleration proposal may price federal power beyond what the market will bear, forcing current customers to find alternate energy suppliers.

In four of the last five Administration budgets, proposals to change PMA repayment policies have been requested. Each time Congress has rejected such changes. APPA urges Congress to reject again the repayment acceleration proposal.

BUREAU OF RECLAMATION OPERATION, MAINTENANCE, AND REHABILITATION (OM&R) REVOLVING FUND

The Bureau of Reclamation's FY 1990 budget request suggests proposed legislation to establish a revolving fund for operation, maintenance, and rehabilitation (OM&R) of reclamation projects. The proposal would authorize the Secretary of Interior to use water and power revenues to pay for reimbursable OM&R costs without requiring annual congressional appropriations. OM&R costs allocated to nonreimbursable functions would continue to be funded by annual appropriations.

According to the Bureau, a revolving fund would provide the flexibility and financial certainty needed for the efficient operation of a businesslike OM&R program financed by the users. In general, APPA supports this concept, and notes that revolving funds are in place for the Colorado River Storage Project, the Colorado River Basin Project, the Boulder Canyon Project, the Fort Peck Project, and the Bonneville Power Administration. However, the support of federal power customers is contingent on the full participation of the relevant PMA in developing and approving the OM&R power budget. Further, any unobligated balance in the fund should be refunded to the appropriate users.

In the event that legislation establishing a revolving fund is not enacted in a timely fashion, we ask this subcommittee to appropriate sufficient funds for the Bureau of Reclamation OM&R program. If the revolving fund legislation is enacted, we ask that sufficient funds be appropriated to enable the program to commence operation. This should represent no net loss to the U.S. Treasury since all OM&R expenditures are fully reimbursable.

RENEWABLE ENERGY

APPA is concerned that budget constraints have undermined critical energy research and development programs. Renewable energy technologies are essential to America's energy future; yet budget cuts have reduced such R&D programs to half of what they were in 1981 and additional cuts are threatened.

The Administration's FY 1990 budget proposes substantial cuts from FY 1989 funding levels for DOE renewable energy R&D programs. This budget would be cut overall by 23 percent, with photovoltaics cut by 30 percent, solar buildings R&D by 22 percent, and solar thermal R&D by 11 percent. Such reductions, imposed on already severely constrained budgets, would weaken America's competitive stance in an export industry that will be increasingly important to the international economy. By comparison, the German and Japanese national photovoltaic programs are now over twice the size of DOE's proposed 1990 budget of $25 million.

The federal photovoltaics program is an exemplary public/private partnership, with private industry bearing over 50 percent of the cost of the U.S. effort. To be effective, however, such partnerships require stable and reliable funding. The FY 1990 budget would reduce the photovoltaic program from $35 million to $25 million. This proposed $10 million cut would likely lead to closure of the photovoltaics program at either the Solar Energy Research Institute or Sandia National Laboratories or reduce federal funding required to complete current contracts. Such a course would make it impossible to realize current program goals – such as cost-effective utility generation – until well past the year 2000.

In order to meet our national energy, environmental, and economic goals, federal involvement must transcend research and development programs to meet the widening 'demonstration gap.' Millions of dollars already expended on renewable and advanced energy research may be lost because market-scale demonstrations essential to commercial acceptance are not taking place.

APPA believes that this energy 'demonstration gap' must be addressed. For that reason, APPA supports legislation introduced by Sen. Wyche Fowler, S. 488, and Rep. Phil Sharp, H.R. 1216, the 'Renewable Energy and Energy Efficiency Technology Competitiveness Act.' This legislation targets renewable energy options for demonstration programs in order to bring them into the mainstream commercial arena. The bills would authorize three years of funding at a stable level and call for public/private funds to demonstrate the commercial feasibility of energy efficient and renewable technologies. In this manner, promising research will be transformed into marketable products.

For FY 1990, APPA urges that funding levels stay at least equivalent to FY 1989 levels: $92.2 million for solar, $19.6 million for geothermal, $23.6 million for electric energy systems, and $13.5 million for energy storage.

ELECTRIC AND MAGNETIC FIELDS

APPA supports increased funding for the Department of Energy's research program on health effects of electric and magnetic fields (EMF) created by electric transmission lines. DOE's FY 1990 appropriations request for the program is $2.2 million. APPA believes a funding level of at least $4 million is needed to keep this important program on track.

Public concern about potential adverse health effects from electric and magnetic fields is strong. Almost every proposed new transmission line is currently being questioned – and some have been entirely blocked – by those concerned about possible health effects and potential decreases in property values because of perceived health effects. Accordingly, APPA's membership, at the annual conference last June, adopted a resolution calling for increased federal funding for research in this area.

Over the last decade, DOE's Office of Energy Storage and Distribution has carried out a research program on possible health effects of electric and magnetic fields. It is the only federal program studying this serious issue. While widely regarded as a pioneer effort of international stature, funding support for the program has dwindled from $4.7 million in FY 1985 to the current DOE request of $2.2 million. Last year, the House agreed to provide $4 million for the program. Unfortunately, this was cut in conference to $3 million.

Research in this area is very complicated, and contradictory scientific results are common. Much remains to be learned. At the requested $2.2 million funding level, the scope of current studies would be severely diminished. APPA believes that a strong federal presence is essential so that the public can be assured of an unbiased scientific evaluation of any potential health hazards. We urge this subcommittee to increase funding to $4 million for EMF research.

NRC USER FEES

The Nuclear Regulatory Commission (NRC) budget request for FY 1990 is $472 million. Under current law, NRC will recover 45 percent of its budget, or $212 million, from user fees. The Administration's FY 1990 budget proposes requiring 100 percent user fee funding of the NRC budget. This would increase current annual fees from over $1 million to over $4 million per commercial nuclear reactor, with these costs passed on directly to ratepayers.

Under the Omnibus Budget Reconciliation Act of 1987, NRC user fees were increased from 33 to 45 percent. APPA supports the assessment of user fees for specific services rendered by NRC. However, certain benefits of NRC regulation – such as public health and safety, environmental quality, and national security – accrue to the public at large and should be funded through federal appropriations. For this reason, we urge this subcommittee to reject the proposed increase in NRC user fees.

NUCLEAR WASTE REPOSITORY

APPA is seriously concerned about delays in implementing the nuclear waste program. DOE's FY 1990 budget request for $500 million for the nuclear waste program is sufficient to enable DOE to move forward on site characterization work of the

proposed high-level nuclear waste repository at Yucca Mountain, Nevada. As you know, the nuclear waste program is solely funded by nuclear utilities, which currently have paid $4 billion into the fund. Unfortunately, the program is behind schedule. DOE will not be able to meet its contractual obligations to utilities to accept spent fuel by 1998. If the program is further delayed, utilities and their consumers will have to pay for expensive at-reactor storage. Further delays also jeopardize the credibility of the program. We appreciate this subcommittee's interest in this important issue. We urge the subcommittee to approve the $500 million budget request for the program and to require DOE to move forward expeditiously with the nuclear waste program.

ADVANCED NUCLEAR REACTORS

APPA believes that DOE's program on advanced nuclear reactors must be adequately funded so that the safety, economic, and environmental benefits of advanced reactors are available to the public. DOE has been funding programs that will lead to NRC certification of advanced reactor designs – including the Advanced Light Water Reactor, the Modular High Temperature Gas Reactor, and the Liquid Metal Reactor. Fundamental aspects of these reactors are that they are simpler than current reactors, economical, reliable, and designed to meet strict safety standards. Some of these reactors incorporate modular and small units to provide flexibility and use innovative fuels. DOE's FY 1990 appropriations request proposes to cut $28.1 million from these programs. APPA believes that such reductions are ill-advised at this time since they will adversely affect the completion of these important programs. APPA notes that development of such reactors may be a critical component of any broad-based response to the greenhouse effect, and we urge that these programs be adequately funded.

STATEMENT OF REV. T. BYRON COLLINS AND REV. WILLIAM L. GEORGE, ASSISTANTS TO THE PRESIDENT, GEORGETOWN UNIVERSITY

Mr. Chairman and members of the Committee, we are Rev. T. Byron Collins, S.J. and Rev. William L. George, S.J., Assistants to the President of Georgetown University for Federal Relations. Thank you for this opportunity to testify.

Ten years ago the Department of Energy embarked on an historic project with Georgetown University. Our goal was to demonstrate the viability of solar power by integrating photovoltaic solar panels with an Intercultural Center. We are pleased to report that this project has been a tremendous success (cf. attachment). The solar panels continue to provide the bulk of the electricity needed to operate the facility. By instituting a working demonstration of photovoltaic solar cells as a national exemplar, we have hastened the introduction of this valuable technology into modern building design. Without the help of the Department of Energy with its offices at the Oak Ridge National Laboratory, the Jet Propulsion Laboratory and the Sandia National Laboratory, this ambitious undertaking would never have made it off the drawing board. We are working with the Agency to improve the efficiency and commercial marketability of these solar cells.

Georgetown is currently involved in another energy project to design and construct a $70 million Cogeneration Facility. This effort will be entirely funded by the private sector. Project plans include extensive cooperation with Energy Dominion and Potomac Energy and Power Company (PEPCO to supply electricity to the neighboring community with the surplus energy generated by this facility.

We thank the committee for its long standing tradition of encouraging worthwhile and successful energy and water projects. On behalf of our president, Rev. Timothy S. Healy, S.J., we thank you for the opportunity to testify.

STATEMENT OF THE NUCLEAR ENGINEERING DEPARTMENT HEADS ORGANIZATION

In response to your letter of March 28, enclosed is written testimony I am submitting to the Appropriations Subcommittee on Energy and Water Development concerning a $15 million appropriations request for FY90 nuclear engineering academic programs and university research reactors. This program has been underway for the past two years and has been extremely important in allowing students and faculty to undertake innovative and exciting new research. For example, Professor Ronald Knaus of Louisiana State University takes advantage of the DOE Reactor Sharing Program to utilize the facilities at the Texas A&M University Nuclear Science Center Reactor to carry out his research. Dr. Knaus hopes to spend his sabbatical leave at the A&M Science Center to further carry out his research. In addition, we have had two students from Grambling State University, Mr. George Taylor and Mr. Arnold Williams, who are graduate students in the Department of Nuclear Engineering at Texas A&M in the area of health physics. Mr. Taylor has just completed his M.S. degree and with be employed at the Savannah River Laboratory. Mr. Williams will be finishing his degree soon. The DOE program is important because it provides for support for promising young students such as Mr. Taylor and Mr. Williams.

Because of the emphasis on new research ideas and the broad geographical participation, this program has had an exceptionally beneficial impact on the academic programs and the university research reactor facilities. Particularly important has been the increase in U.S. citizens who are now pursuing Ph.D.'s because of the expanded DOE Nuclear Engineering and Health Physics Fellowship program. The research, fellowship, and reactor support and sharing programs have been very ably administered by Dr. Richard Stephens, Director of the DOE Office of University Programs. I know I speak for the entire academic community when I say that we have all been uniformly pleased and impressed with the capable leadership Dr. Stephens has brought to these efforts. The DOE Office of University Programs has been exactly the right place for these funds to have had the maximum benefit.

Qualified graduates will be needed with backgrounds in nuclear engineering and reactor experience not only for the nuclear power industry, but for the nation's advanced research efforts as well. I am writing to express our appreciation for the funds you and your colleagues have provided in the past and again ask for your support for the $15 million appropriation for FY90 for the Nuclear Engineering Academic University and Reactor Facilities Program. It will have not only a broad national impact but benefit faculty and students from LSU, Grambling State, and across Louisiana as well.

Sincerely,

K. L. Peddicord
Chair, Nuclear Engineering Department Heads Organization

This written testimony is submitted on behalf of the Nuclear Engineering Department Heads Organization (NEDHO) and in collaboration with the National Organization of Test, Research, and Training Reactors (TRTR) and requests the consideration and support of the Appropriations Subcommittee on Energy and Water Development for $15 million for FY90 to support the Nuclear Engineering University and Reactor Facilities Program administered through the Department of Energy Office of Energy Research.

By way of background, NEDHO is composed of the academic leaders in nuclear engineering and applied nuclear science at colleges and universities in 27 states around the country. Similarly, TRTR focuses on the activities at the 36 university reactors. We would like to first express our appreciation for the vision and leadership of the Committee on Energy and Water Development which has resulted in the allocation of $5 million in FY88 and $6 million in FY89 for nuclear engineering university

programs. These funds are ably administered by the Office of University Programs in DOE and have had an extraordinarily positive and invigorating impact. The appropriation has resulted in additional DOE Nuclear Engineering and Health Physics Fellowships, has increased the support at minority institutions, and has led to an expansion of the extremely effective DOE Reactor Sharing Program. However, perhaps the most exciting aspect has been the Notice of Program Interest managed by the Idaho National Engineering Laboratory (INEL) which has allowed faculty and students to conduct research on innovative new ideas through peer reviewed and competitively awarded projects. Last year 163 proposals were received, 34 were classified in the "must fund" category by a national panel, and 18 projects were supported at 14 universities. In response to the Notice this year, over 150 new proposals were received by INEL indicating the abundance of new ideas for research. This program is extremely important because it provides an opportunity, which up to now has not existed, for faculty to explore long term innovative initiatives which could have a great impact in applied nuclear science and technology. In this respect, it is important to note that while nuclear engineers are heavily involved in the commercial light water reactor industry, in fact as much or more of our attention goes to the whole broad scope of the utilization of nuclear forces and nuclear processes for engineering applications. The current DOE program supported by funds appropriated by the Committee on Energy and Water Development permits faculty to investigate new research ideas covering this entire spectrum of nuclear engineering activities. In addition, the projects can be performed over 2 to 3 years which allows students to complete their Ph.D. dissertations as part of the research. We very much appreciate the Committee's actions which has led to the establishment of this program; it has had an extraordinarily beneficial impact.

Of particular importance in the DOE program is the graduate fellowship program. These fellowships allow U.S. citizens who might not otherwise pursue graduate degrees to embark directly on Ph.D. programs. The importance of the commitment of four years of support provided by the DOE Fellowships cannot be overemphasized. Top caliber U.S. students, when they complete their bachelors degrees, receive a number of job offers with extremely attractive salaries. While these graduates will undoubtedly make valuable contributions in their professional positions, as the Committee knows, it is absolutely critical to attract the most capable students to undertake advanced degrees if we are to have the research capability in this country to compete successfully in the burgeoning areas of high technology. As you may know, last year of the 97 Ph.D.'s awarded in nuclear engineering and health physics, less than one half went to U.S. citizens and this number did not approach the new personnel needs of even the federal laboratories. The situation is exacerbated

because Ph.D. nuclear engineers, with their insight into the engineering aspects of nuclear forces and nuclear processes, are vigorously sought for positions that are not commonly thought to be nuclear engineering. This includes fields such as new materials, medical applications, accelerator technology, space power, and other areas which far transcend light water nuclear power plants. Yet nuclear engineers play an important role in the commercial and nuclear industry thereby putting even greater pressures on the demand for nuclear engineers. It is for these reasons that the DOE Nuclear Engineering and Health Physics Fellowships are important because they allow the talented U.S. students to have confirmed financial support which will take them through to the completion of the Ph.D. degree. Without this type of commitment, many very capable students opt for an industry career which, though important, will preclude their participation in the long term research endeavors of the country.

Finally, I would like to call your attention to the recent study by the National Academy of Science and the National Research Council entitled *University Research Reactors in the United States--their Role and Value*. I believe the decline to 36 university facilities, which is one-half of the original number, is cause for great concern. This is especially serious because in my view the university research reactors are a fundamental component in our national research infrastructure. While the nuclear engineering departments use these reactors for both curriculum and research, it is imperative to recognize that the university reactors serve a much broader research community than just nuclear engineering. Faculty from other engineering disciplines, the physical and natural sciences, agriculture, medicine, and veterinary medicine carry out extensive research at these facilities. Further erosion in the number and status of university reactors will negatively impact our national capability to perform research in many high technology areas. Other countries have recognized this need and responded vigorously. This situation has reached the point where our own national laboratories often now have to recruit overseas to find qualified experimentalists who have research reactor experience. While nuclear engineering represents only one segment of the university research community which utilizes the research users of these facilities, NEDHO very much supports the needs for modernizing and maintaining the university research reactors. Another noteworthy aspect has been the DOE Reactor Sharing Program. This program has allowed faculty and students from other universities, colleges, high schools, and junior high schools to utilize the university reactors. This has led to research projects and lines of inquiry which might never have occurred had there not been a mechanism to easily access these facilities in a timely way. The Reactor Sharing Program must rank as one of the most cost effective and successful expenditures ever made with federal funds. This program must receive continued support and should be expanded to allow the university reactors more flexibility to serve a broader spectrum of research users.

To address the nuclear engineering academic and research reactor needs, I have attached to this testimony a budget for the ongoing DOE support of university programs. The $15 million appropriation includes $1 million for the fellowship program, $0.8 million for minority institutions, $0.8 million for a DOE traineeship program, $2.4 million for ongoing university research projects approved in prior years, $5 million for new research projects, $1 million for an expanded reactor sharing program, and $4 million for reactor equipment modernization and upgrade.

The university nuclear engineering programs and research reactors serve vital roles in assuring the nation's energy supply, providing graduates for key roles in national security, and undertaking leading edge research critical to our competitiveness in high technology areas in the international marketplace. I believe the academic programs and the reactor facilities merit the consideration and support of the Committee as outlined in this request.

Thank you for the opportunity to present this testimony.

Proposed Budget

U.S. Department of Energy
Office of Energy Research
Office of University Programs

Nuclear Engineering University and Reactor Facilities Programs

For FY90

Nuclear Engineering Academic Program	
DOE Nuclear Engineering and Health Physics Ph.D. Fellowships	$1.0 million
Minority Institutions Program	$0.8 million
DOE Traineeship Program	$0.8 million
Ongoing Research Projects (reviewed and approved in prior years)	$2.4 million
New Research Projects	$5.0 million
Reactor Facilities Program	
Expanded Reactor Sharing Program (to allow for support of projects from faculty members from both inside the host institution as well as from other universities and schools in the region which do not have reactor facilities)	$1.0 million
Reactor Modernization and Upgrade	$4.0 million
Total	$15.0 million

STATEMENT OF THOMAS W. LUCE III, CHAIRMAN, TEXAS NATIONAL RESEARCH LABORATORY COMMISSION

Introduction

Mr. Chairman, Members of the Committee, it is a pleasure to appear before you today to testify concerning the Superconducting Super Collider (SSC). I am Chairman of the Texas National Research Laboratory Commission, the state agency which is responsible for the State of Texas' participation in the development and financing of the SSC.

My prepared testimony will focus on 2 important issues:

1. The national interest in proceeding with construction of the SSC; and

2. Financing the construction of the SSC.

National Interest in the SSC

The SSC is truly a national project. Development and construction of the SSC will involve universities and businesses throughout the country. Currently 35 institutions in 18 states are conducting SSC-related research sponsored by the Department of Energy (DOE). Seven companies located in six different states are participating in DOE's Magnet Industrialization Program aimed at establishing an industrial capability for production of the magnets needed for the SSC. At least 250 companies located in more than forty states have contacted DOE to express an interest in participating in the development of the SSC.

Once completed, there will be nationwide participation in the research conducted at the SSC. The SSC will be utilized by over 100 American universities, thereby strengthening the research capabilities of universities in every section of the country. To maximize this benefit, Texas has committed to establishing a $100 million research fund to support SSC-related research at universities and laboratories throughout the nation. A portion of this fund will be earmarked for universities with developing physics programs.

The scientific and technological benefits to be derived from the development and operation of the SSC are vitally important to the entire country. Nothing less than America's leadership in science and related technology is at stake. Our country's efforts to solve a host of problems ranging from economic competitiveness to environmental problems will depend on our commitment to maintaining this leadership.

A large portion of U.S. technology owes its existence to basic physics research. Past investments in basic research of the interiors of atoms have been repaid 100 times over in terms of new technology, jobs, enhanced national security and advances in medicine. In pure financial terms, it is estimated that approximately 1/3 of our gross national product is based on our knowledge of the atom.

While we cannot predict with certainty that the SSC will result in a new pollution-free source of energy or the technology necessary to power new high speed trains, history tells us there will be numerous applications of enormous importance. Throughout history, basic scientific research projects such as the SSC have consistently laid the groundwork for the development of technologies which have transformed economies and improved the quality of life.

Basic research led to the discovery of the electron in 1897, which led to the discovery of the transistor, microchips, and television.

Basic physics research has led to the utilization of microchips in computers and laser beams in compact disk players.

Today x-ray beams from electron accelerators, which were originally developed for basic physics research, are being used by industry to produce the next generation of computer chips that will be at the heart of future super computers.

Many modern medical technologies are the direct result of basic physics research. For example, Fermilab is building an accelerator for Loma Linda University that will be used for the treatment of cancer. Positron Emission Therapy (PET) scans are now being used to identify cancerous tumors. Proton and heavy-ion accelerators, originally built for physics research, have been used in medical therapy for over 25 years.

The development and operation of the SSC is important to the national security of our country. The DOE and Department of Defense (DOD) have recently released a list of the 22 technologies which are critical to national security and "the long-term qualitative superiority of U.S. weapons systems." Twelve of these technologies are closely related to and presumably will be advanced by the development of the SSC. DOD and DOE indicate that passive sensors and computer simulation, both of which will be advanced by the research and development associated with the SSC detectors, are critical technologies. Similarly, data fusion and parallel processing for high-speed computing are important to future weapons systems. The SSC will stimulate the development of both data fusion and parallel processing. The SSC will also further several of the other technologies on the list compiled by DOD and DOE.

The research for the SSC has already begun to yield spin-offs. The spin-offs to date include:

-- Better magnets for medical diagnostic machines using magnetic resonance imaging (MRI), a method of looking inside bodies, that promises to be even more useful than x-rays and CAT scans.

-- More efficient techniques for tunneling that will save millions of dollars in the construction of water systems, sewer lines, and subways.

-- A light-weight compact microwave amplifier that promises to boost the effectiveness of satellite communications.

-- A giant coil of superconducting cable that could store electricity produced by power plants at night when demand is low, and release it during the day when demand is high.

-- Enhancements in hardware and software that will enable us to remain in the race for leadership in the super computer field.

In addition to the numerous tangible "spin-offs" which can reasonably be expected to result from the SSC, there are many intangible benefits to be realized by the entire country which will result from the SSC.

-- Construction of the SSC will symbolize American determination to maintain our scientific leadership in the world and remain competitive in the increasingly challenging world economy.

-- The SSC will attract many of the world's leading physicists to live and work in the United States as opposed to forcing U.S. scientists to borrow time in a Japanese or European laboratory.

-- The SSC will be a visible and tangible commitment by America to science and technology and will thus serve as an inspiration for our young people to pursue careers in science, much as the Apollo program did in the 1960's.

The SSC provides this promise without threatening other science projects. For FY 1990, the $250 million requested by President Bush is .8% of the amount requested for the National Science Foundation (NSF), DOE general science programs and space research. In FY 1992, the year in which the funding requirement for the SSC will be the greatest, the SSC represents only 2.6% of the projected budgets for the NSF, DOE general science programs and space research.

Failure to proceed with the construction of the SSC will cause America to relinquish scientific leadership in a field that has yielded enormous benefits to our society.

Financing the Construction of the SSC

The State of Texas is willing and able to be the Federal government's financial partner in the construction of the SSC. The people of Texas feel so strongly about the importance of the SSC that they voted in a state-wide election by an overwhelming 62% to spend $1 billion to help finance the development of the SSC. In addition, Texas will deliver all the land necessary for the SSC to the DOE without cost to the Federal government. It should be noted that Texans voted for this financial package before the preferred site decision was made and with the knowledge that DOE could not consider financial incentives in making its site selection.

As a result of the farsightedness of the citizens of our state, the Commission I head is authorized today to utilize $1 billion for the development of the SSC. Texas will pay its fair share to insure that the non-federal participation goal of 30% envisioned in H.R. 1195 by Congressman Ralph Hall is met. The 30% goal is obtainable throughout the construction of the SSC with a combination of participation by Texas as well as foreign countries.

If Congress wants foreign participation in the development and operation of the SSC, Texas is willing to "front-load" our investment for the first two years of construction to meet the 30% non-federal contribution goal. A firm commitment by Congress and Texas to the construction of the SSC will demonstrate the inevitability of the project and thus strengthen the U.S. position in negotiating the terms and conditions under which we want foreign governments to participate. Much of the foreign participation will be in the form of in kind contributions of components for the SSC. We must insure that America universities and industries have an opportunity to fully participate in the research which will yield the most promising technologies.

The two year period, during which Texas will meet the 30% non-federal contribution goal, will not only strengthen the U.S. negotiating position, but will also allow the Administration and Congress the needed time to negotiate the necessary agreements with the foreign participants. There are many serious intellectual property issues that will need to be solved before any foreign participant will commit to contribute.

In closing, I want to thank this Committee for its work. I know you face many difficult choices with a finite amount of funds.

The SSC can be the most important machine mankind has built. I hope you will reach the same conclusion.

I would be happy to respond to any questions you may have.

Thank you.

STATEMENT OF HERBERT M. BOYD, DIRECTOR-TECHNOLOGY MANAGEMENT, ALABAMA POWER CO.

Mr. Chairman, members of the Subcommittee, I am pleased to have this opportunity to present the views of the Alabama Power Company on the FY 1990 budget request for the Department of Energy's photovoltaic research and development programs.

I am Herbert M. Boyd, Director-Technology Management at Alabama Power Company, a subsidiary of The Southern Company.

First I want to thank the Chairman and members of the Subcommittee for supporting photovoltaic research and development programs during past years.

The Department of Energy budget request for FY 1990 of $25.05 million for photovoltaic research and development is 29% lower than the $35.5 million appropriated for the current fiscal year. I fully realize that the administration's and Congress' goal for deficit reduction places severe limit on FY 1990 appropriations. However, the proposed $25.05 million is not adequate to carry on the minimum research and development programs that are essential for photovoltaic research during FY 1990. Congress recognized this by increasing the appropriations in 1989 to $35.5 million. The need for research has not changed since 1988 and foreign competitors have increased their efforts.

The world photovoltaic markets, of which the U.S. once held an 80% share, are expected to grown into a $1 billion a year market by the year 2000. America's market share has fallen to 31% as our R&D expenditures have fallen behind those of Japan and Germany whose R&D expenditures and market shares have risen. If we support research in these technologies, we can develop and sell them to the world; if we don't, then we will buy them from others. The photovoltaic industry can have a significant positive effect on our technological competitiveness and our balance of payments. Now is the time to support the industry and to reemphasize R&D.

The electric utility industry will be seeking new sources of energy by the mid-1990s and renewable energy technologies should be available for consideration at that time to help meet the United States' energy independence goal. We believe that one of the renewable energy technologies that offers great promise as a source of clean energy for the utility industry is photovoltaics. This belief is demonstrated by Alabama Power Company building and placing into operation the world's largest amorphous silicon thin-film photovoltaic grid connected array. This 75KW demonstration unit is now producing enough power at the time of our system peak to supply the energy for 19 homes.

In addition to the $1 million spent on the above installation, Southern Investment Group, another subsidiary of The Southern Company, has invested $6.1 million in a joint venture with Chronar Corporation to build and put into operation a 1MW amorphous silicon photovoltaic cell manufacturing facility in Birmingham, Alabama.

The Department of Energy research programs have enabled the domestic photovoltaic industry to make steady progress in developing a clean, competitive energy supply alternative. Today photovoltaics are competitive with other energy sources at remote sites. The Coast Guard has installed more than 9,000 photovoltaic aids to navigation worldwide that will save an estimated $2 million per year in maintenance costs and between $2 and $3 million per year in battery costs. However, even though many advances have been made, there is still important research needed to further increase conversion efficiencies, improve reliability and reduce costs in order for photovoltaics to be a viable energy source for central power applications.

The United States is in a race with Japan, West Germany and other countries in the development of photovoltaics for central power applications by utilities. The winner of this race with the best technology and lowest cost will have a worldwide market for their products. The U.S. utility industry does not want to import the photovoltaic products needed to meet the energy demands of the 1990s.

However, as the Department of Energy appropriation for photovoltaics fell from $153.2 million in FY 1981 to $35.5 million for FY 1989, research and development funding in Japan, West Germany and other countries has been increasing. For example, Japan has increased funding for photovoltaic programs from less than $5 million in 1980 to $53 million in 1988. Included in this are expenditures for amorphous silicon research and development, which have increased from $2 million in 1980 to $23 million in 1988. During the same period, expenditures for amorphous silicon research and development increased from $5 million in 1980 to $10 million in 1987 but fell to only $8 million in 1988. If we adopt the current budget, Italy will spend more for photovoltaic research and development in FY 1990 than the DOE.

Since 1981 amorphous silicon thin-film photovoltaics have increased from 3% of total photovoltaic world sales of 5MW to above 40% of the total market of 34MW in 1988. We believe that amorphous thin-films offer potential for power applications in the utility industry and is the photovoltaic technology we are currently investigating. During the past year, with help from Department of Energy funding, efficiencies of more than 14% have been achieved with new thin-film materials. However, as methods are found to increase efficiencies in the laboratory, additional research and funds are needed to use these new materials in low-cost, reliable, large area submodules. This work needs to be done in the United States and not in Japan and West Germany.

The Southern Electric System continues to feel that fundamental materials research will eventually advance the photovoltaic state-of-the-art further than any of the other areas of current investigation. Until the industry can understand why materials behave as they do, solutions can not be theorized or developed to solve manufacturing problems associated with thin-film photovoltaic cells. Since cost is a significant driver in all manufactured products, basic materials research is needed to make these improvements in structure as well as manufacturing. In addition, the industry must strive to develop new materials which have the capability of increasing efficiency so that the cost goals required to be competitive with existing energy forms can be achieved. My recommendations for FY 1990 is as follows:

ACTIVITY	DOLLARS IN THOUSANDS
Advanced Thin Film Materials	$15,500
High Efficiency Materials	8,200
Fundamental Materials Research	13,500
Collector Research	800
System Research	1,400
Capital Equipment	400
TOTAL	$39,800

As you can see, this exceeds the 1989 appropriation of $35.5 million. However, if we as a nation are to stay competitive with other countries, then the level identified above is a minimum for advancing the necessary photovoltaic technologies.

STATEMENT OF DALE TURNER, MAYOR, LIVERMORE, CA

Good morning Mr. Chairman and Members of the Subcommittee. My name is Dale Turner and I am the Mayor of Livermore, California. I appreciate the opportunity to be here today to discuss how Lawrence Livermore National Laboratory's and Sandia Laboratory's projects impact the City's traffic circulation network. The City currently faces $76 million in new transportation improvements for the portion of the City that is adjacent to Lawrence Livermore National Laboratory. Of that amount, $9.9 million involves improvements that are directly related to activities and growth of the Laboratories. The City of Livermore believes strongly that those costs should be borne by the Federal Government.

The City of Livermore is located in the East Bay, about 45 miles east of San Francisco, and is home to the Lawrence Livermore National Laboratory and Sandia Laboratories. The City of Livermore recognizes the national security importance of the Laboratories and appreciates the large employment base it provides to the community. However, our City is concerned that the Laboratories have been negligent in acknowledging their responsibility for impacts on the surrounding community. Let me provide the Committee with a little history. The City provided the funding for the Vasco Road overpass which cost $5 million. Vasco Road is used primarily by Laboratory employees, and we believe that the Laboratories should have helped pay for these costs. To date, the Federal Government has not contributed to the costs for this improvement.

More recently, the Lawrence Livermore National Laboratory condemned a significant piece of property for a security perimeter. While the Laboratory originally said the property was taken for security purposes, they are now beginning construction of two nuclear-related research facilities in this area. The construction of this complex will have significant public works impacts on the City.

The two new nuclear research facilities referred to as the Nuclear Test Technology Complex will significantly affect the City's storm drain system and will cause increased traffic on Vasco Road. Improvements necessary to mitigate these impacts would cost the City $3.2 million. This is in addition to the Laboratories "fair share" cost of $9.9 million for the Transportation Improvement Program. A facility as large as the Lawrence Livermore National Laboratory and Sandia Laboratories cannot ignore the effects it has on the surrounding community. Communications between a

Federal facility and a neighboring community is necessary with respect to any proposed development that affects the community's infrastructure and services.

The Laboratories have shown a willingness recently to fund the public works improvements needed for these two research facilities primarily because the City controls a right-of-way permitting access to the area where the buildings will be constructed. However, we have been told that additional Congressional authority will be needed to fund these public works improvements. We support the Laboratories efforts to obtain this funding.

Mr. Chairman, the reason I am here today is to discuss what we refer to as the "fair share" distribution of the costs of needed transportation improvements in the portion of the City of Livermore where the Laboratories reside. The City's traffic circulation network has been affected by the Laboratories for years, yet the Laboratories have not paid for their share of transportation improvements needed in the community. In effect, this has resulted in a backlog of transportation improvements that are needed in our community. We commissioned a traffic study to be conducted that would predict transportation requirements in the Lawrence Livermore National Laboratory portion of the City. The study shows that based on growth from the private sector and from the Laboratories, approximately $76 million in transportation improvements will be needed in the area immediately adjacent to the Laboratories. The study also shows that the Laboratories fair share of the improvements is $9.9 million.

The fair share was arrived at by looking at present conditions and future growth projections for both the Laboratories and the private sector in the area. The City used the Laboratories employment and employment growth data to determine the percentage of improvement costs directly attributable to the Labs activities. Therefore, additional traffic to and from the Labs equates into specific needed street expansions, freeway interchange improvements, and signal improvements.

The transportation improvement analysis illustrates the Laboratory's traffic contribution to more than 25 roadway segments in the general area surrounding the facility. The roadway segments were identified by Laboratory personnel as representing the most probable roads affected by Laboratory traffic. Mr. Chairman, I am submitting the transportation improvement analysis for the Committee's record. The Laboratories have indicated that they are committed to support improvements that can be reasonably attributed to their activities. However, we have no firm commitment that the Laboratories will provide their fair share of the cost of these transportation improvements. We believe that Congress must provide the Department of Energy with the $9.9 million to meet the Laboratories responsibilities. If the Laboratories do not pay their fair share, the improvements cannot be completed--the City has no money to pay for these improvements. The private sector development community adjacent to the Laboratories cannot reasonably be expected to pay for improvements needed to handle existing and increased Laboratory traffic, in addition to the $63 million in improvements that they are already required to pay for under the fair share concept. It is important to understand that with the passage of Proposition 13, public funding of improvements through the use of general obligation bonds is impossible for all practical purposes. With the cutback in local property tax revenues, as a result of Proposition 13, California cities no longer can fund these sorts of improvements out of general revenues.

I should mention that not all of the Laboratories off-site impacts have been transportation related. Radioactive wastes have been discharged into our sewer system by the Laboratories. Our groundwater has been contaminated by the presence of hazardous waste on Laboratory property. Anti-nuclear protests at the Laboratories have resulted in significant public safety costs over the years.

This is not just a transportation issue. It is an equity issue. The Laboratories should be required to include the community in their land development plans and pay their share of offsite public improvements needed to serve their facilities. A Federal facility as large as the Laboratories have a significant impact on a community and should be held responsible for these impacts. It is just not equitable for the Federal Government to expect a City like Livermore with its limited resources to subsidize the development of Federal facilities. I am hopeful that the members of the Subcommittee understand the equity of this situation, and will provide the funds for the Laboratories to meet their fair share of transportation improvements.

I have appreciated the opportunity to present the views of the City of Livermore, and would be pleased to answer any questions you may have at this time.

STATEMENT OF THE AMERICAN SOCIETY FOR MICROBIOLOGY

The American Society for Microbiology (ASM) wishes to take the opportunity to submit a statement in support of a number of important programs sponsored by the Department of Energy (DOE) that impact upon the microbiological sciences.

The ASM is the largest single biological life science organization in the world with an active membership of approximately 35,000 microbiologists who work in academe, industry, and government. The interest of microbiologists in human well-being involves them in research not only on the control of diseases but also on problems encountered in the area of energy and the environment, including new methods to dispose of waste resources, bioconversion of lignin and cellulose, renewable energy resources and exploiting new microbial activities that are discovered by studying microbial diversity. While the DOE supported programs in microbiology are not the major programs requiring large budgetary allocations at the DOE, they, nevertheless, are critical for gaining fundamental biological understanding for future biosystems for the conversion and conservation of energy and require adequacy of funding.

It is essential to recognize that the scientific community depends almost entirely upon DOE for critical areas of microbiological research. We wish to call attention to the DOE Energy Biosciences program. The FY 1990 budget request for this program is $21.2 million, only a 3% increase over fiscal 1989. The Energy Biosciences research effort of DOE is inadequately funded. Only 10% or less of the projects reviewed can actually be funded, as compared to rates in other programs, such as those sponsored by the National Science Foundation, where approximately 30% of the submitted proposals are funded. If this program were funded at twice the level and the award rate was increased to 20%, there would be no decrease in the quality of the research performed. We are further concerned about the small size of the average Biosciences grant, which is approximately $75,000 including overhead. This is less than half of an average NIH

grant and even in an institution with average overhead, would support only a postdoctoral fellow. Such limitations discourage those first-rate scientists whose support is critical for the future.

We recommend that $6 million of new money be added to the Energy Biosciences program for the following areas of increased emphasis:

(a) Microbial diversity -- important primary, secondary and tertiary metabolism. DOE is the source of funding on microorganisms on the new kingdom Archaebacter, which includes bacteria of industrial importance which are important in energy conversions -- such as the methanogens and the extreme thermophiles which are capable of metabolizing at very high temperatures.

(b) Plant chloroplast and mitochondrial research.

(c) Unusual enzymatic activities
enzymes involved in the cycle of metals
phosphate mobilization
synthetic enzymes.

The DOE supports important microbiological research that is directly related to the production of fuel resources. Microbiological studies, for example, are carried out on how to enhance recovery of oil through the use of microorganisms or microbial byproducts. The role of microorganisms as biocatalysts for fuel production similarly is an important element of the DOE research program. Additionally, and perhaps of more importance for the future long-term production of fuels, the DOE sponsors basic research on conversions of plant biomass. The understanding of such basic processes forms the foundation on which later applied research programs can be developed. The DOE program in plant biomass conversions is important and augments research sponsored by other agencies.

The DOE also sponsors research on the impacts of environmental releases of fuel related products. In this regard, the Department is performing an important focused research effort on deep aquifer microbiology aimed at determining the fate of fuel related contaminants in the aquifers that form the drinking water supply of portions of the nation. This program has already yielded some important and unpredicted discoveries which indicate that microorganisms are far more active and far more diverse in deep aquifers than expected. Microorganisms isolated in the deep drilling projects that have commercial value is evidenced by the fact that pharmaceutical companies have bought significant isolates. Thus, the program not only provides basic research, but also forms the basis for technology transfer to industry. Continuation of this program with adequate funding is essential. The program should be viewed as a model example of how basic DOE microbiological research can produce novel results with important practical implications for industry and for future fuel production and usage.

The ASM recommends that the Subcommittee give special consideration to its funding recommendations for the DOE programs in the microbiological sciences since their budgets are modest in comparison to the potential benefits both to the DOE energy mission and to the nation's economy.

STATEMENT OF DR. DONALD L. KLASS, PRESIDENT, BIOMASS ENERGY RESEARCH ASSOCIATION

This statement pertains to the Department of Energy R&D appropriation. The Biomass Energy Research Association (BERA) recommends that $22.3 million be provided for biofuels R&D, with the funds allocated in the following fashion:

Biomass Production	$ 5,400,000
Thermochemical Conversion	
Biomass	3,900,000
Municipal Solid Waste	3,900,000
Biochemical Conversion	5,400,000
Regional Programs	3,100,000
Capital Equipment	600,000
	$22,300,000

Thank you Mr. Chairman and members of the Subcommittee. I am Donald Klass, President of BERA. BERA is a non-profit association that was founded in 1982 by biofuels researchers and companies that are conducting biofuels research. Our objectives are to promote education and research on renewable biomass- and waste-to-energy systems that can be economically utilized by the public, and to serve as a source of information on policies and programs for our members and industry.

We appreciate the opportunity to present BERA's recommendations for the federal biomass and municipal waste R&D budget, and would like to commend the Subcommittee for its interest in and understanding of the role of biofuels in our national energy policy. Before presenting BERA's position and recommendations on the fiscal 1990 budget, I would briefly like to point out the unique features of biofuels, summarize their current contributions to energy demand, and indicate their potential.

Unique Features of Biofuels

- Biofuels are the only renewable resource capable of supplying substitutes for fossil-derived liquid, gaseous, and solid fuels, as well as heat and electricity, to all areas of the Nation and to all four sectors of the energy economy -- residential, commercial, industrial, and transportation -- from local resources.
- Application of biofuels technologies to wastes offers opportunities for combined waste disposal-energy recovery-conservation systems.
- The widely dispersed nature of biomass and waste feedstocks for conversion to biofuels greatly improves our national security by providing a secure energy supply.
- Biofuels are one of the most environmentally benign energy options and contribute little or nothing to acid rain, the Greenhouse Effect, or ozone layer destruction.
- Virtually all basic organic chemicals -- including plastics and petroleum-derived products -- can be manufactured from biomass and wastes thereby displacing and conserving depletable fossil feedstocks.
- Biofuels are the only renewable resource that can provide desperately needed local jobs and economic development in rural America.

Present Contribution of Biofuels

- In 1987, biofuels contributed about 3.0 quad of energy in all forms, or about 3.7% of our national total primary energy demand of about 80 quad.
- In barrels of oil equivalent per day (BOE/d), the contribution consisted of 1.3 million BOE/d from wood fuels; 52,000 BOE/d as heat, steam, and

electricity from municipal solid wastes; 33,100 BOE/d as liquid alcohol fuels for vehicles; 18,900 BOE/d as heat, steam, and electricity from agricultural and industrial wastes; and 5,700 BOE/d as substitute natural gas from solid waste landfills and municipal sewage.

- At a price of $20 per barrel of oil equivalent, biofuels currently retain in the U.S.A. about $10.3 billion per year that are not expended on oil imports thereby having a strong beneficial impact on our massive trade deficit.
- Biofuels provide excellent regional benefits -- 80 cents of every dollar spent on biofuels in a given region stays in that region, while 80 cents of every dollar spent on petroleum leaves the region.
- Utilization of biofuels supplies local jobs and income such as the 78,000 jobs and $1.9 billion in income in the Northeast that resulted from fuel wood usage in 1985, both of which have been projected to double by the year 2000.

Potential Contribution of Biofuels

- The theoretical maximum potential energy available each year from biomass and wastes about the turn of this century has been estimated to range up to 54.9 quad, or about one half of our projected energy consumption at that time.
- Municipal, industrial, and agricultural wastes are currently estimated to have an energy potential of about 15.0 quad per year, and wood and wood wastes are currently estimated to have an energy potential up to about 25.0 quad per year.
- Utilization of excess capacity croplands of up to 160 million acres projected beyond the year 2000 could produce up to 10.2 quad per year of energy crops. This could open the way to new food, feed, and fuel product flexibility to provide more stability to market prices, create new markets for the agricultural sector, and reduce federal farm subsidy payments.
- Under business-as-usual conditions, it has been estimated that total annual biofuels consumption at the turn of this century will be 4.8 quad, which is far less than the potential contribution.

BIOMASS AND BIOFUELS CAN HELP REDUCE GLOBAL WARMING

Since there appears to be a national consensus among technical experts regarding the reality of the Greenhouse Effect, which is caused primarily by atmospheric CO_2 buildup, a few pertinent comments are in order to illustrate how biomass and biofuels can help reduce this buildup.

- The ability of biomass to remove CO_2 from the atmosphere via photosynthesis and biomass growth is one of the lowest cost methods of offsetting carbon emissions in the environment.
- Advanced biomass growth technologies are being researched and field tested that will capture 4 to 5 times as much CO_2 on an annual basis than traditional forestry and agriculture.
- About 1.2 billion acres of new biomass growth area is estimated to be needed to remove CO_2 from the atmosphere at a rate roughly equal to current global fossil fuel releases. This corresponds to a square area about 1,370 miles on each edge.
- Unused potential cropland and set-aside land totalling 225 million acres could be made available in the U.S.A. alone for new biomass growth.
- Consumption of 10 quad of biomass energy per year instead of coal would result in 2 trillion fewer pounds of CO_2 release and add no new CO_2 to the environment.

There is little doubt that the growth of biomass is the only practical way to remove CO_2 from the air, and that biomass-derived fuels or biofuels are the only technologies that can both remove CO_2 and reduce the amount of fossil

fuels burned. Also, the fact remains that if the Greenhouse Effect is indeed real, the U.S.A., which uses about one-fourth of the energy consumed throughout the world despite the fact that the U.S. population is only about one-twentieth that of the world, and other countries will inevitably be required to move toward non-fossil energy resources.

THE ADVERSE IMPACT OF DIRECTED FUNDING WITHOUT ADDITIONS TO BUDGET

As pointed out last year in my testimony, the combined effect of a large budget reduction and a large amount of directed funding, in some cases even for projects that have little or no relationship to biofuels, had a strongly negative impact on biofuels R&D. The directed funding levels for fiscal 1989 were over 1/3 of the already-reduced appropriation of $13.4 million and resulted in major program reductions and terminations, such as almost all the ongoing conversion work on gasolines and diesel fuels. After a detailed analysis of what occurred in fiscal 1989, I concluded that the primary benefit of continuing the biofuels program under these conditions is to maintain some of the key elements of the existing program and the expertise of a few of the scientists and engineers needed to mount a crash program in the future when fossil fuels are again in short supply. And as I have pointed out before, a quality research program cannot be turned on and off like a light switch.

Examination of the biofuels budget proposed for fiscal 1990 by the Administration reveals even a more serious situation. The proposed budget is $9.1 million; this does not include the hydrogen R&D and the regional programs that were directed to be funded in fiscal 1989 at a total level of $4.4 million. If these programs are again directed to be funded without a corresponding budgetary increase, a balanced core biofuels R&D program will be impossible to maintain. Further major reductions and terminations will be necessary.

The most appropriate solution to this dilemma is to provide adequate funding for biofuels R&D and transfer the non-biofuels R&D on hydrogen to another office such as the Office of Energy Research or Office of Energy Storage and Distribution.

BERA RECOMMENDS $22.3 MILLION FOR FISCAL 1990 BIOFUELS R&D
A Balanced Program of Production, Conversion, and Technology Transfer

The BERA Board of Directors has reviewed DOE's proposed fiscal 1990 biofuels R&D budget, and the following recommendations represent our position on the R&D areas and the funding levels we urge you to include in next year's budget. About one half of our budgetary recommendation is again allocated to conversion because we believe that it is the foundation of a balanced program to develop advanced systems for the production of liquid and gaseous biofuels. We continue to believe the real potential of biofuels can never be realized without the development of efficient and economic conversion processes.

Also, I would like to emphasize that the industry-cofunded medium-Btu gasification demonstration plant that BERA has supported for several years is not mentioned in our recommendations. Five million dollars have already been separately appropriated for this scale-up program and will therefore not affect the R&D budget for fiscal 1990. BERA urges that the project be initiated before the end of calendar 1989.

I would now like to summarize BERA's biofuels recommendations for fiscal 1990.

Biomass Production

Land- and/or water-based biomass grown and harvested specifically for biofuels represent a long-term approach to energy plantations that can supply large amounts of fossil fuel substitutes. Considerable progress has been made on efficient short-rotation intensive-culture tree production methods, and on the growth of aquatic species in low-grade saline water for liquid fuels and chemicals or in municipal wastewater as a low-cost, combined wastewater clean-up and biomass production system. In addition, research on tissue culture techniques and the application of genetic engineering methods to low-cost energy crop production, and the evaluation of herbaceous plants as sources of biofuels nationwide have shown promise. This work should be continued as an integral part of the biofuels program.

BERA recommends that $5,400,000 be directed to continue biomass production research.

Thermochemical Conversion Research

Thermochemical conversion research to produce energy and liquid and gaseous fuels at competitive costs is the prime target of this program component. Laboratory- and pilot-scale research on municipal solid wastes and biomass has established the technical feasibility of several advanced combustion, gasification, and liquefaction processes, and basic research is in progress to improve our understanding of the mechanisms of conversion and the formation of pollutants, especially from municipal solid waste-energy recovery facilities.

Direct liquefaction of municipal solid wastes, wood, and herbaceous feedstocks via production of biocrude and its subsequent upgrading by advanced catalytic processes to gasoline and diesel fuels show promise. Continued research is expected to increase the overall liquid yields to the point where the gasoline costs are competitive with those of petroleum-based gasolines. Thermochemical liquefaction of wastes and low-grade biomass for the production of low-cost fuel ethanol also shows promise and merits investigation.

Continued research on the thermochemical gasification of wastes and biomass has resulted in the development of advanced process designs and reactor configurations that maximize yields and provide optimum product distributions. For example, selected operating conditions can produce medium-Btu gas or optimum synthesis gases for manufacture of ammonia, methanol, methane, gasoline, or diesel fuels. This work has been performed at the laboratory and pilot scales and is ready for demonstration. Some research is still needed to perfect the feeding of diverse biomass and waste feedstocks at elevated pressures, the elimination of tars and particulates from product gas streams, and the recycling of residuals.

In combustion research, a need still exists for improved solid waste incinerators that meet environmental requirements and cost goals. Research should be focused on systems that can be used for economic disposal of municipal solid wastes in small communities.

BERA's members feel that thermochemical conversion research on biomass and municipal solid waste should be funded equally. Municipal solid waste disposal is a nationwide problem that needs our immediate attention, while biomass offers a long-term approach to development of large-scale supplies of biofuels.

BERA recommends that $7,800,000 be directed to continue thermochemical conversion research on biomass and municipal solid wastes.

Biochemical Conversion

Application of the rapidly advancing field of biotechnology to the conversion of low-cost biomass to liquid and gaseous fuels such as ethanol and methane-containing fuel gases has made great progress and should be continued. Process evaluations by experts have identified key opportunities

for economic pay-backs with biochemical conversion systems, and new genetic engineering and other emerging biological approaches have made significant advances. Research needs have also been identified that should be addressed to increase our understanding of the biochemical and microbial interactions that occur in fermentation processes.

At this time, the cost of ethanol from biomass is approaching that from corn, and with continued research, we are confident the cost can be made competitive with fuels at today's prices without tax exemptions, thereby lessening our dependence on foreign supplies of petroleum while stabilizing fuel prices. Furthermore, the technical advances made through this program will benefit the competitive position of the United States in biotechnology world markets. Future research should be concentrated on conversion of low-cost feedstocks such as lignocellulosic wood wastes by high-yield acid- and enzyme-catalyzed hydrolysis processes, on development of innovative fermentation product separation schemes that have the capability of producing low-cost fuels and by-products, on the development of organisms that can metabolize the hemicellulose components in the feedstocks, and on the utilization of the lignin fractions as octane enhancers and chemicals.

Biochemical conversion systems are unique in that they can directly produce methane, the major component of natural gas, from the full range of low-cost biomass. Additional research is required to identify and develop organisms that increase both methane yields and gas production rates. Research is also needed to develop novel fermentor designs that permit higher feedstock concentrations and smaller reactor volumes, and therefore lower capital costs. This research is expected to lead to practical methods for producing substitute natural gas from low-cost biomass. And in the case of feedstocks such as municipal wastewaters, low-cost integrated biomass production-waste stabilization-methane production systems are expected to evolve from continued research.

BERA recommends that $5,400,000 be directed to continue biochemical conversion research for liquid and gaseous biofuels production.

Regional Programs

The Regional Programs established by Congress in 1983 make a concerted effort to transfer the technology resulting from the R&D programs to the private sector and are the link between the laboratory and commercialization. The Regional Programs should be sustained because the transfer of the research results to technology users and the creation of a strong national biofuels industry are the ultimate goals of the biofuels R&D program.

BERA urges that funding be provided for the Regional Programs at $3,100,000.

Recommended Budget

Over the last few years, a continually reduced appropriation has made it extremely difficult for DOE to sustain a balanced R&D program. A high proportion of a limited budget allocated to earmarked projects and expansion of the biofuels program to include non-biofuels research without corresponding budgetary additions caused major program reductions. BERA strongly urges Congress, therefore, to appropriate a budget of $21.7 million as allocated above for fiscal 1990, and an additional $0.6 million for capital equipment.

Program Evaluation

DOE's first multiyear plan for biofuels R&D has now been published. BERA recommends that the plan be updated periodically by DOE, particularly in view of the continued reduction in appropriations over the last few years. The program elements should also be related to the level of funding.

STATEMENT OF BERNARD S. LEE, PRESIDENT, INSTITUTE OF GAS TECHNOLOGY

Mr. Chairman, I am Bernard S. Lee, President at the Institute of Gas Technology. IGT is a not-for-profit energy laboratory specializing in non-nuclear energy research. Today I will be addressing two program areas--geopressured/geothermal energy and biofuels.

First, the geopressured research.

In 1987, the United States used 17.6 trillion cubic feet of natural gas. The U.S. Geological Survey has estimated that 5700 trillion cubic feet of natural gas exist in geopressured/geothermal brines in porous sandstone formations in the U.S. Gulf Coast area. If even 10% of that gas can be recovered, we can add 30 years of domestic natural gas supply at current rates of use. In addition, an equal amount of thermal energy may be available from the hot brines.

Production of geopressured/geothermal methane involves drilling a well into a productive geopressured zone and bringing to the surface a mixture of hot brine and methane. On the surface, the mixture is reduced in pressure, causing the gas to separate from the brine, yielding approximately 30 ft^3 of methane per barrel of brine. The brine is then injected back into a saline aquifer.

The current DOE program involves two wells in Louisiana, Gladys McCall and Hulin, and one in Texas, Pleasant Bayou. During the coming year, the program will address issues such as:

--maximum brine and gas production rates;
--productive lifetimes of given reservoirs;
--optimum production strategies to maximize energy recovery;
--techniques to control scaling and corrosion from the brines; and
--long-term capacities of disposal aquifers.

IGT recommends $8.4 million for FY90 to continue the scientific data acquisition and analysis at these three geopressured/geothermal wells, including the analysis of historic data.

IGT also recommends several biomass research efforts. The first two focus on solid waste disposal, and the final one addresses the need to lower the release of carbon dioxide.

Solid waste disposal is an increasing problem in the United States, with landfills reaching capacity and alternatives such as incineration experiencing environmental problems. Both IGT programs involve environmentally benign gasification of solid waste, producing, with high efficiency, fuel that can be used on site or transported in a pipeline.

One alternative is biological conversion of Municipal Solid Waste (MSW) to methane. IGT recommends combining two technologies, pressure swing absorption and an improved version of anaerobic digestion, to convert MSW to pipeline quality methane.

Conventional single-stage anaerobic digestion is a process long employed by industry and municipalities, using microorganisms for pollution control and sludge stabilization. Pressure swing absorption is a technique used to purify gas streams, using the differences in the solubility of a gas in a liquid at two different pressures to remove the unwanted gas.

Use of two stage anaerobic digestion instead of single stage anaerobic digestion in combination with pressure swing absorption will eliminate the chemical cost required by single stage anaerobic digestion and also allow the use of smaller and more economic equipment because of the higher reaction rates in two stage anaerobic digestion.

Pressure swing two-stage anaerobic digestion promises to be the most economic means of producing a pipeline quality methane gas from solid waste or biomass.

IGT recommends $0.5 million to develop an integrated pressure-swing two-stage anaerobic digestion system based on this concept using an existing PRU to economically produce pipeline quality methane from solid waste and biomass.

The second IGT solid waste proposal involves gasifying refuse derived fuels (RDF). RDF is produced by removing the non-combustibles from municipal waste, producing a solid fuel to be used either alone or as a supplement to coal.

IGT has developed RENUGAS®, a pressurized, fluidized-bed process for the gasification of biofuels which can be applied to the gasification of RDF. In a combined cycle power plant, this will use municipal solid waste to produce electricity in a highly efficient, environmentally sound manner.

The use of RENUGAS allows the conversion of RDF to electricity without the release of harmful emissions or the creation of dioxins. Power generation efficiencies up to 45% are expected from RENUGAS® RDF gasification, compared to efficiencies up to 33% from mass-burn steam cycles. This efficiency increase will result in a 25% decrease in the amount of CO_2 released for the same amount of electricity produced. A RENUGAS combined cycle power plant will be available in a wide range of sizes, available to a broad range of users.

IGT recommends $1.5 million to apply the RENUGAS® technology and IGT's existing process research unit to the gasification of RDF, directed toward both electric power and methanol production.

Finally, Mr. Chairman, we recommend a solution to the greenhouse problem.

The trend toward global warming, known as the greenhouse effect, has been attributed in part to the increasing concentration of carbon dioxide in the atmosphere, released during the combustion of all fossil fuels. Since fossil fuels are likely to be used for many years, means to either remove the carbon dioxide from, or prevent its escape into, the atmosphere are being considered.

IGT recommends that carbon dioxide from a fixed point source such as a power plant can be scrubbed to produce carbonate or bicarbonate solutions, which can, then be used to feed algae in an attached film reactor (AFR) where a thin film of algae, approximately 1 millimeter thick, will be attached to an inclined surface and sprayed with the carbonate or bicarbonate solutions. Mature algae will be washed down the incline, transporting the algae and the hydrocarbons they produce for collection, separation and use.

The carbonate or bicarbonate solutions can be collected whenever a power plant is in operation, sprayed directly on the AFR during the day and held in storage tanks at night. Hydrocarbons produced by the algae can be collected for use as a fuel.

IGT recommends $0.5 million to produce a more active algae and evaluate the attached film reactor concept using carbonate and bicarbonate solutions as a means of reducing carbon dioxide released to the atmosphere from point sources.

This concludes my testimony. I have attached more complete explanations with my written statement. I thank the Subcommittee for the opportunity to appear, and I would be happy to answer any questions.

GEOPRESSURED/GEOTHERMAL METHANE

The U. S. Department of Energy has underway a project aimed at solving the technical issues associated with producing cost competitive natural gas and using the heat of the brines from the vast geopressured/geothermal resources present in the Gulf Coast area. Three wells are available to the project: Gladys McCall (LA), Pleasant Bayou (TX), and Hulin (LA).

This program requires the involvement of various organizations with expertise ranging from well operations, surface facilities and hybrid electric power plants to geology, physical chemistry, reservoir modelling, environmental studies and experimental data analysis. Participating organizations include: Eaton Operating Company, Institute of Gas Technology, the Ben Holt Company, University of Texas at Austin, University of Southwest Louisiana, S-Cubed, Louisiana State University, Southern University, Rice University, the Bureau of Economic Geology of the University of Texas at Austin and EG&G Idaho.

The project team has developed corrosion prevention treatments, specialized materials and brine handling equipment which have allowed the production of large amounts of hot brine and natural gas from the Gladys McCall and Pleasant Bayou wells. This proved the existence of these huge, previously unknown underground reservoirs. The results of this program also provide useful information for improving production of natural gas from conventional or watered-out reservoirs.

A power plant provided by EPRI which uses both the natural gas and thermal energy of the brine is being installed at Pleasant Bayou. This will be the first demonstration of electricity production using this resource. Following the power plant program, the brine will be produced at high flow rates to yield further information about the strength of the reservoir rock and the changes in the rock permeability as the reservoir pressure decreases.

The Hulin well has been refurbished and is ready for the installation of trial production and testing equipment. If the well proves capable of high flow rates, permanent production and testing equipment will be installed. The test program will expand the scientific understanding and modelling to this deepest and hottest of the three wells. It also may show the presence of free gas in

addition to the gas dissolved in the brine. The presence of free gas would have a positive effect on the economics of geopressured/geothermal energy.

The final scientific testing program for the Gladys McCall well is underway to determine the effect on the reservoir of having produced over 27 million barrels of brine and 675 million cubic feet of methane during the DOE test program. The scientific understanding obtained will allow the prediction of the longevity of geopressured/geothermal reservoirs.

The scientific programs at all three wells should be continued, as valuable technical, environmental and economic information is being obtained.

IGT recommends $8.4 million to continue the scientific data acquisition and analysis at the three geopressured/geothermal wells, Pleasant Bayou, Hulin and Gladys McCall, including analysis of historic data.

PRESSURIZED GASIFICATION OF REFUSE DERIVED FUELS

The disposal of municipal solid waste is becoming an increasingly crucial issue. Historically, solid wastes have been disposed of in landfills. However, in an attempt to reduce the volume of solid wastes and thereby increase the life of landfills, technologies have been developed and deployed for recycling and electric energy generation.

Waste-to-energy facilities primarily use mass-burn technologies, incinerating wastes to heat water to produce steam for generating electric power. Some waste-to-energy facilities manufacture refuse derived fuel (RDF) which is produced by removing the non-combustibles from municipal waste, producing a product to be used either alone as a fuel or as a supplement to coal in boilers.

Current mass-burn technologies still need improvement. Plants have suffered extended shutdowns for problems in fuel handling and ash removal. Serious questions have been raised regarding their emission of hazardous air-borne pollutants. Consequently, there is still a need for alternatives to the mass-burn concept.

The use of RDF as a supplement to coal has suffered from unfavorable economics. Because of the high ash content of RDF, using it with coal results in increased boiler maintenance, eliminating the incentive for a coal boiler operator to use RDF.

IGT has developed RENUGAS, a pressurized, fluidized-bed process for the gasification of biofuels which can be applied to the gasification of RDF. Using RENUGAS to gasify RDF as part of a combined cycle power plant will allow the use of municipal solid waste to produce electricity in a highly efficient, environmentally sound manner.

The use of RENUGAS allows the conversion of RDF to electricity without the release of harmful emissions or the creation of dioxins. Power generation efficiencies up to 45% are expected from RENUGAS RDF gasification compared to efficiencies up to 33% from mass-burn steam cycles. This efficiency increase will result in a 25% decrease in the amount of CO_2 released for the same amount of electricity produced.

The RENUGAS process can also convert RDF into a synthetic gas that can be used to create methanol, which can then be used to generate electricity, as a transportation fuel, or as a chemical intermediate.

Another problem with mass burn facilities is that they are only economic at large sizes, limiting their usefulness to large metropolitan areas or regional facilities. A RENUGAS combined cycle power plant will be available in a wider range of sizes. This would make the technology and its environmental benefits available to a broader range of users.

IGT recommends $1.5 million to apply the RENUGAS technology and IGT's existing process research unit to the gasification of RDF, directed toward both electric power and methanol production.

ENRICHED METHANE PRODUCTION FROM ANAEROBIC DIGESTION OF SOLID WASTE OR BIOMASS

Solid waste disposal is an increasing problem in the United States with landfills reaching capacity and alternatives such as incineration experiencing environmental problems. One alternative to incineration is biological conversion of municipal solid waste to methane, a clean burning fuel.

Conventional single-stage anaerobic digestion is a process long employed by industry and municipalities which uses microorganisms for pollution control and sludge stabilization. However, it produces a product gas that contains 60% methane and 40% carbon dioxide. The cost of removing the carbon dioxide to produce a pipeline quality gas (greater than 95% methane) from this mixture is prohibitive, ranging from $1.50 to $3.00 per million Btu.

Pressure swing absorption is a technique that is used to purify gas streams. It uses the difference in the solubility of a gas in a liquid at two different pressures to remove the unwanted gases. Integration of this technique with single stage digestion would eliminate the costly separation step. However, application of pressure swing absorption will increase the pH in the digestor requiring additional chemicals to control the pH within the range needed by the microorganisms. This will represent an additional chemical cost of approximately $2.50 per million Btu of gas produced.

IGT has successfully tested carbon dioxide removal from the product of single stage anaerobic digestion of sewage sludge, under GRI/DOE contract. This is an important step towards producing pipeline quality methane gas from anaerobic digestion.

Use of two stage anaerobic digestion instead of single stage anaerobic digestion in combination with pressure swing absorption will eliminate the chemical cost required by single stage anaerobic digestion and also allow the use of smaller and more economic equipment because of the higher reaction rates in two stage anaerobic digestion.

Pressure swing two-stage anaerobic digestion promises to be the most economic means of producing a pipeline quality methane gas from solid waste or biomass since it eliminates both the need for carbon dioxide removal from methane and the use of chemicals for pH control.

IGT recommends $0.5 million to develop an integrated pressure-swing two-stage anaerobic digestion system based on the GRI concept using an existing PRU to economically produce pipeline quality methane from solid waste and biomass.

CARBON DIOXIDE REMOVAL USING HYDROCARBON PRODUCING ALGAE

The trend toward global warming, known as the greenhouse effect, has been attributed in part to the increasing concentration of carbon dioxide in the atmosphere. Carbon dioxide is released into the atmosphere during the combustion of all fossil fuels.

Despite growing concern about the environmental effects of carbon dioxide release, we cannot readily abandon the use of fossil fuels. The economies of both developed and developing nations are dependent on fossil fuel use for energy needs ranging from transportation, electricity generation, and heating to manufacturing. Fossil fuels are also an essential part of the world's energy resources. Since fossil fuels are likely to be used for many years, means to either remove the carbon dioxide from, or prevent its escape into, the atmosphere are being considered.

Photosynthesis is a natural process for recycling and fixing carbon dioxide. One U.S. electric utility is attempting to balance the CO_2 produced from one of its power plants by agreeing to plant 52 million trees in Guatemala. This can only be considered as a slow, long term remedy and will require very large areas. The company estimates that two square miles of forest are required to mitigate carbon dioxide emissions from one megawatt of electrical capacity.

Another approach is to use hydrocarbon-producing algae to remove and fix carbon dioxide and obtain a storable and reusable energy source. Algae are an order of magnitude more efficient users of land area for carbon dioxide removal than are forests or crop plants. They also produce hydrocarbons that can be collected and converted to liquid fuel. The algae can be harvested and used for a variety of purposes. Other researchers are testing the use of large shallow ponds (up to 50 acres and 6 inches deep) for algae growth. This will require large areas of flattened land surfaces resulting in high site acquisition and preparation costs. Recovery of the algae from large ponds will also be costly. In the shallow pond concept, the carbon dioxide is bubbled into the pond and removed by the growing algae. During darkness, the algae will be less efficient, requiring the reduction of power plant output, the release of carbon dioxide into the atmosphere, or a fresh approach to begin to control carbon dioxide.

IGT recommends that carbon dioxide from a fixed point source such as a power plant can be scrubbed to produce carbonate or bicarbonate solutions, a more readily usable and efficient carbon dioxide source for the algae. This solution can be used to feed a thin film of algae in an attached film reactor (AFR). In an AFR, a thin film of algae, approximately 1 millimeter thick, will be attached to an inclined surface and be sprayed with the carbonate or bicarbonate solution during daylight hours. Mature algae will be washed down the incline, transporting the algae and the hydrocarbons they produce for collection, separation and use. The combination of using carbonate or bicarbonate solutions and the ATR technology should reduce the land requirement by an order of magnitude compared to the shallow pond approach.

The carbonate or bicarbonate solution can be collected whenever a power plant is in operation, sprayed directly on the AFR during the day and held in storage tanks at night. Hydrocarbons produced by the algae would be collected for use as a fuel.

IGT recommends $0.5 million to produce a more active algae and evaluate the attached film reactor concept using carbonate and bicarbonate solutions as a means of reducing carbon dioxide released to the atmosphere from point sources.

STATEMENT OF THE AMERICAN CHEMICAL SOCIETY

The American Chemical Society (ACS) believes that it has become increasingly important for the Department of Energy to maintain and strengthen its support for long-term, basic research through its Basic Energy Sciences (BES) programs. Consequently, the ACS urges Congress to increase BES funding in the fiscal years beyond 1990 in order to achieve adequate support for the research component of these programs. Such research will provide the knowledge base for new energy technologies and future energy options. Many results of research sponsored by the BES programs already have been transferred to the industrial sector where they are being put to practical use to meet the country's current energy needs as well as being applied toward the development of products and processes in the continuing effort to stem the U.S. trade imbalance.

The benefits of basic research are found not only in the application of the scientific knowledge gained from such research but also in the education and training of the Nation's future scientists, engineers, and teachers through BES grant-supported research conducted by individual investigators at academic institutions, and at National Laboratories. In addition, the University Research Support program provides research and educational opportunities at National Laboratories for university faculty, graduates, and undergraduates, as well as for students and teachers in grades K-12. Participation in actual research is a powerful experience that can convince young people to explore a career in science and engineering.

BUDGET RECOMMENDATIONS

Research supported through Basic Energy Sciences is being badly squeezed by budget pressures. This situation is especially true in the Chemical Sciences and Materials Sciences Divisions of BES where additional funds are being targeted to meet facilities needs or for designated research areas such as molecular sciences and high-temperature superconductivity. The increases for facilities, while well-spent, should not come at the expense of funding for many other interesting, and worthy, research projects.

Facilities

For BES Facilities Operations, an increase of $27.0 million, or thirty-two percent, is being proposed in the Administration's FY 1990 budget. These funds support the operations of major user facilities where research sponsored by DOE, other government agencies, and industry is conducted. In FY 1988, of the $75.7 million budgeted for existing Facilities Operations, approximately half was devoted to non-DOE activities. Unexpected maintenance, and more stringent safety and environmental regulations, also are adding to the cost of operating these user

facilities. The recent High Flux Isotope Reactor (HFIR) shutdown, and the costs associated with its restart, illustrate this type of drain placed upon the BES budget. Since these costs were unplanned, they have had to be paid with monies from the BES Research budget. In addition, the BES Research budget supports ongoing pre-construction R&D for new, more powerful facilities. Factoring in increased facility usage; upgrading, safety, and utility costs; and increased user requirements, as well as bringing new facilities to the construction phase, and decommissioning older facilities, the total costs associated with facilities are projected to grow. Long-term planning is needed so that facility needs are met without sacrificing BES research support.

Research

Under the FY 1990 budget proposal, the percentage of research support going to universities and the National Laboratories is projected to decrease. Many more exciting research areas that have potential payoffs for energy innovations, as illustrated in the Research Directions section that follows, are waiting to be funded. The increase recommended by the ACS to the BES budget would provide the needed funding for the base research programs as well as support priority areas that exist throughout BES programs.

From fiscal year 1981 through 1989, Basic Energy Sciences Research funding increased $10.7 million, or three percent, in FY 1989 dollars (not including facilities support, preconstruction R&D for the Advanced Neutron Source, and computer support). Although the vast majority of the nation's energy is derived from chemical processes, the Chemical Sciences Research programs suffered a twelve percent decrease ($12 million) in constant dollars over the FY 1981-1989 period. This amount is roughly equal to the Division's FY 1988 contribution (approximately $10.3 million) to two national laboratories (Ames and Berkeley), plus support for fifteen private investigator research grants at $100,000 each. Over this same period, Materials Sciences Research has experienced a decrease of $5.7 million or four percent.(1)

Increased funding in the Chemical Sciences and Materials Sciences Divisions would allow expanded research in such important areas as superconductivity, synthesis and processing of materials, and bioprocessing of fuels and wastes. A 1988 report to the President notes that America's position of world leadership in high-temperature superconductivity research is being severely threatened by the Japanese and that heightened efforts in this field are necessary to retain the Nation's current status.(2) Energy efficiency and pollution reduction are other areas where basic research could provide practical economic and ecological benefits for the Nation. In order to provide adequate funding for these, and other, worthwhile research endeavors, the American Chemical Society recommends that Chemical Sciences and Materials Sciences Research budgets be restored to their FY 1981 level of effort by providing:

- An eighteen percent increase over the FY 1989 operating budget for Chemical Sciences Research, from $91.8 million to $108.3 million in current dollars.

- A five percent increase over the FY 1989 operating budget for Materials Sciences Research, from $136.6 million to $143.4 million in current dollars.

These increases would add $13.6 million to the Administration's request for FY 1990 and establish Materials Sciences and Chemical Sciences Research as funding priorities.

Isotope Production and Development Fund

The Isotope Production and Distribution Fund (IPDF), an outgrowth of the Atomic Energy Acts of 1946 and 1954, calls for the production and sale of isotopes not available elsewhere. This Fund was proposed in the FY 1989 budget request and

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1. 1988 Review of the Basic Energy Sciences Program of the Department of Energy, A Report of the Basic Energy Sciences Advisory Committee (Washington, D.C.: Department of Energy, November 1988), pp. 21-22.

2. High Temperature Superconductivity: Perseverance and Cooperation on the Road to Commercialization, Committee to Advise the President on High Temperature Superconductivity (Washington, D.C.: White House Science Council, 1988), pp. 31-37.

$1.885 million was committed to this program from the Chemical Sciences Division of BES. When Congress did not approve this account in FY 1989, none of the committed funds were returned to the Chemical Sciences Division. The Division had to transfer the funds from important research efforts to isotope production. Since the IPDF is in the proposed FY 1990 budget, with $2.091 million transferred from Chemical Sciences, the same scenario could be repeated. The ACS urges that Congress assure that either the $2.091 million commitment to the Isotope Production and Distribution Fund from the Chemical Sciences Division be used for this program or that the funds be returned to the Division.

Combustion Research Facility

The Combustion Research Facility (CRF) program at Sandia Laboratory is vital to U.S. leadership in combustion science. The program is unique in its research scope, ranging from the most fundamental investigations to advanced applications, and has proven to be extraordinarily effective in unlocking combustion diagnostics and modeling principles. These fundamentals of combustion science are linked intimately to many of today's most important energy issues, such as energy efficiency and pollution reduction.

Each year CRF hosts nearly one thousand short-term visitors and almost one hundred long-term collaborators. These scientists and engineers, who come from industry, universities, and other National Laboratories, interact with forty resident staff scientists. The Chemical Sciences, Geosciences, Materials Sciences, and Energy Biosciences Divisions all support research at this facility.

The proposed expansion of this facility (CRF Phase II) would add new capability and capacity, thereby insuring the continued success of the program. After providing the needed construction funds for the first two years of Phase II ($0.3 million, FY 1987; $4.5 million, FY 1988) of the four-year building program, Congress did not allocate the $9.7 million needed for FY 1989. This loss of construction funding, if left uncorrected, would leave a truncated facility with a significantly reduced research capability. The ACS supports the recommendation of the Basic Energy Sciences Advisory Committee (BESAC) that the needed funds totaling $14.1 million be provided for the completion of the CRF Phase II.

RESEARCH DIRECTIONS

Existing opportunities are waiting to be explored in materials and chemical sciences, which possess implications for the economic well-being and energy security of this country. Numerous reports have highlighted these promising areas and have made concrete proposals for action.

In 1985, the National Research Council (NRC) published a report called Opportunities in Chemistry, which indicated that relevant chemical research areas for BES consideration are reaction dynamics, combustion, catalysis, and plant science.

In 1988, NRC released an additional report, entitled Frontiers in Chemical Engineering: Research Needs and Opportunities (Appendix), which identifies research directions in chemical engineering that should be applied to DOE programs. This Report emphasizes that expanded support of chemistry in DOE is vital to future progress in chemical engineering. The Report recommends new initiatives and coordination among DOE programs. Relevant to programs in the Office of Energy Research are the following recommendations:

- The Department of Energy should support research on fundamental phenomena important for in situ processing of hydrocarbon resources.
- The Office of Energy Research (OER) and The Office of Fossil Research should coordinate research that will lead to the development of the next generation of liquid fuels.
- The Division of Engineering and Geosciences should continue, and expand, its support of cutting-edge research in fluid dynamics and process design and control.
- Given the broad range of energy-related applications, the Division of Chemical Sciences should undertake an initiative in the chemical control of surfaces, interfaces, and microstructures.

- OER should consider a major thrust in chemical processing of materials in the Division of Materials Sciences.

The 1988 report of BESAC notes that there are nationally valuable, but unfunded, opportunities facing BES. The report recommends increased support to expand the base of the BES research programs as well as enhanced funding of $10 to $20 million in priority areas--chemical and physical synthesis and processing of materials, and bioprocessing of fuels and wastes--that capitalize on new opportunities in the Divisions of Materials Sciences, Chemical Sciences, Energy Biosciences, and Engineering Research.

RESEARCH SUCCESSES

Research programs in areas such as materials development and combustion have contributed to the successes enjoyed by the Office of Basic Energy Sciences. For example, an industry/university/national laboratory collaboration, supported with Chemical Sciences funding, has produced a new technique for measuring short-lived species, known as free radicals, found in flames. This technique is useful in developing predictive models of the performance of combustion systems. Employing this technique, scientists can study flame structure and its properties through a direct process for the first time.

The 1987 Nobel Prize in Chemistry was shared by Dr. Donald Cram, a UCLA researcher and BES grant recipient. The award-winning research involved the extraction of electrically-charged heavy metal atoms from complex solutions. This technique has widespread applications in recovery of scarce metals, purification of common metals, and the analysis of the metal contents of solutions. Biochemical applications of Cram's technique also exist since molecules, as well as metals, can be isolated using this procedure. Dr. Cram has developed chemical models of enzymes that allow for extension of his technique to natural systems. The commercial applicability of this process has been recognized and used in the medical community as a cost-effective method for the routine analysis of sodium and potassium, two very important and commonly-found metals in our bodies.

INSTRUMENTATION AND PERSONNEL

The ACS asserts that the University Instrumentation Program of the Office of Energy Research is underfunded. This program, which provides funds for state-of-the-art equipment costing over $100,000 each, was allocated $5.0 million last year. Of the 151 applications received in FY 1988, only twenty-two were funded even though many more were deemed worthy of support. The American Chemical Society recommends a fifty percent increase in FY 1990 for the University Instrumentation Program. This increase would bring total funding to $7.5 million and provide for a greater number of awards.

Personnel shortages already are being experienced in two critical need areas: nuclear chemistry and radiochemistry. Increased medical applications of radiochemical principles are stimulating the need for more chemists with expertise in this area. The nuclear power and process industries also require trained, experienced professionals. To satisfy the personnel needs of just the Department of Energy, an additional ten-to-twenty Ph.D.'s who are experts in nuclear and radiochemistry, as well as twenty-to-forty B.S.-level chemists, will be needed each year. Safety problems looming at the Department's facilities and at the other nuclear facilities throughout the country will exacerbate the need for more scientists in the nuclear chemistry field. Declining faculty and fewer courses in these two fields also are serious problems that add to the personnel shortages.(3)

The American Chemical Society, with a membership of over 137,000 chemists and chemical engineers, appreciates this opportunity to express its views. The Society believes that the costs of the recommendations being made are modest when compared to the importance of energy and its impact on our economic well-being and national security.

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3. Training Requirements for Chemists in Nuclear Medicine, Nuclear Industry, and Related Areas, A Report of a Workshop of the National Research Council Board on Chemical Sciences and Technology (Washington, D.C.: National Academy Press, 1988), pp. 1-7.

STATEMENT OF AMERICAN RIVERS, INC.

American Rivers, Inc. respectfully submits the following comments on the Federal Energy Regulatory Commission FY 1990 Congressional Budget Request.

As you know, American Rivers is the nation's principal river-conservation organization with about 11,000 members across the country. American Rivers believes that hydroelectric development is a reasonable and appropriate use of certain of our nation's rivers. However, we also believe that hydroelectric development needs to be balanced with a policy of preserving and enhancing the nation's outstanding rivers. Accordingly, American Rivers works to protect certain outstanding free-flowing rivers from further hydroelectric development. In addition, we are working, through the FERC hydroelectric relicensing process, to restore and enhance certain of our nation's working rivers whose natural values have been degraded by hydroelectric development.

Our comments are divided into two parts. First, we discuss certain problems of concern to American Rivers created by the FERC's current inadequate financial resources. Second, we present certain general recommendations for FERC budget priorities for fiscal year 1990.

Current Fiscal Problems at FERC

1. Inadequate Resources for Environmental Analysis. FERC has traditionally devoted too few resources to the preparation of Environmental Impact Statements (EISs) on proposed hydroelectric projects. Since about 1980, FERC has approved an average of about 200 projects for construction each year. However, we understand that the Commission has completed only about two EISs each year on hydroelectric projects over the last several years. As a result, serious environmental questions that should have been addressed before deciding whether or on what terms to approve certain projects have not been addressed. Furthermore, FERC has routinely had its licensing orders overturned for failure to complete EISs on particular projects, see e.g., LaFlamme v. FERC, 842 F.2d 1063 (9th Cir. 1988); Steamboaters v. FERC, 759 F.2d 1382 (9th Cir. 1985); Confederated Tribes and Bands of the Yakima Indian Nation v. FERC, 746 F.2d 466 (9th Cir. 1984), and a number of projects are now being challenged at the administrative level on this ground.

The prospect that FERC will do insufficient numbers of EISs is even greater with respect to relicensing. A total of over 200 hydroelectric licenses will expire between now and the end of 1993, and the Commission will have to decide on what terms and conditions to issue licenses for all of these projects. FERC takes the position, in its regulations under the National Environmental Policy Act, that in general it will not prepare EISs on applications for new licenses at existing dams. FERC takes this position despite the fact that the courts have held that an EIS may well be required in relicensing proceedings, see, e.g., Confederated Tribes and Bands of the Yakima Indian Nation v. FERC, supra, and the upcoming relicensings on such rivers as the Platte in Nebraska (Kingsley Dam), the Wisconsin in Wisconsin (14 projects), the Raquette in New York (8 projects), the Deerfield in Massachusetts and Vermont (9 dams) and many others are likely to be the focus of significant environmental controversy and represent a major new commitment of public resources.

2. Inadequate Resources for Environmental Review. FERC also lacks sufficient resources to do an adequate job of analyzing the environmental effects of proposed projects and developing terms and conditions to mitigate those impacts. Surprisingly, a FERC staff visit to a project site prior to project approval is the exception rather than the rule. The small FERC environmental review staff is forced to rely too much on information supplied by applicants and over-extended state and federal agencies. As a result, FERC staff are routinely unaware of critical resource concerns, such as impacts of projects on whitewater boating, at the time of licensing. Finally, FERC licensing orders are often superficial, containing little in-depth analysis of the public and private costs and benefits of approving a project or imposing particular terms and conditions on a project.

3. Inadequate Resources for Public Involvement. The Commission staff also is severely hampered by budgetary constraints in their ability to meet with anglers, boaters, and other citizens who are interested in learning about Commission policies and procedures in general or in talking with FERC staff about resource concerns specific to a particular basin or project. Last year, the Commission launched a program of workshops around the country to explain the relicensing process to the public. The Commission has so far participated in four such programs in calendar years 1988 and 1989, but the staff has encountered difficulty in participating in other workshops because of budgetary constraints.

Proposed Budgetary Solutions.

American Rivers recommends that Congress direct the Commission to allocate sufficient resources to meet the problems in these three areas.

1. Increase in Numbers of EISs. The Congress should direct the Commission, either in the bill itself or in report language, to allocate additional financial resources to the preparation of EISs. While it is difficult to estimate the actual cost of specific EISs that may need to be prepared in the coming fiscal year, we understand that a typical, completed FERC EIS costs in the neighborhood of $500,000. The Congress should consider directing the Commission to allocate at least $5,000,000, representing the equivalent of 10 EISs, to the preparation of EISs in FY 1990 and/or for the initial planning of basin-wide EISs for upcoming relicensing applications.

2. More Resources for Environmental Review. We lack specific information about the exact quantity of resources devoted to environmental review at FERC, and therefore lack sufficient information to make specific recommendations. It is our hope that in the course of its review of the FY 1990 Budget Request the Subcommittee will inquire in detail about the quantity of resources dedicated to environmental review. Those inquiries may provide the basis for specific budget recommendations.

3. Specific Appropriation for Public Participation. We recommend that the Congress specifically endorse FERC's initial efforts in terms of outreach to anglers, boaters and others interested in river conservation and development issues and allocate a specific sum to support these efforts in FY 1990. We recommend a modest allocation of $25,000 for this specific purpose.

Thank you very much for this opportunity to comment.

STATEMENT OF BERTRAM WOLFE, VICE PRESIDENT-GENERAL MANAGER, NUCLEAR ENERGY OPERATION, GENERAL ELECTRIC CO.

My name is Bertram Wolfe and I am Vice President and General Manager of General Electric's Nuclear Energy Operation. I have been actively involved in the research, development and application of nuclear power generation for over 30 years. I am a past president of the American Nuclear Society, a member of the National Academy of Engineering and am on the board of several industry organizations in the nuclear energy field. Over the past years I have presented testimony to this Subcommittee during a period when the ability to meet future U.S. energy needs with nuclear power has been waning. All nuclear plants in the U.S. ordered after 1973 have been canceled and utility executives freely state that, under today's conditions, they would not commit to a new nuclear project. My testimony today is not intended to argue for a program for building new nuclear plants. Rather, I want to strongly suggest that it would be a failure on our part, both government and industry, and a grave and dangerous disservice to the American public if we did not maintain nuclear power as a meaningful option for the United States in our increasingly uncertain energy future.

Fortunately, there are some ongoing programs with positive results to-date which have had your support in the past. For example, the Advanced Light Water Reactor (ALWR) Certification program aimed at a 1991 NRC certification of standardized ALWR's is early proof that we have the institutional means to enjoy the benefits of safe nuclear power and serves as a forerunner to all other advanced reactor development programs as it establishes the requirements for standardization and regulatory certification. Similarly, the mid size ALWR program to design and certify smaller plants which utilize passive features for enhanced safety while maintaining competitive economics is focused on near term (1995) program results and require only modest resources. These two programs are part of DOE's 1990 budget request at levels which are adequate for the program objectives and should be maintained.

Such is not the case, however, in the Advanced Liquid Metal Reactor (ALMR) Program. This program which has utilized a competitive process over the past five (5) years to focus the industrial design and licensing effort in a cost shared national program is insufficiently funded. The 5 year DOE contract signed in January of this year calls for $14 million in 1990 to accomplish the design and licensing objectives, not the $4 million DOE requested, which is insufficient to continue this successful program. Your support in restoring the contract funding level along with guidance to DOE on the specific ALMR technology support consistant with the program plan is requested. With such support, these programs will make this important, perhaps vital, energy source an available and acceptable option for our future energy security.

Nuclear power continues to be the only economic alternative to an excessive reliance on fossil fuels. Yes, there have been growth pains, but our industry is only about 35 years old and during this period we have built and are now operating over 350 nuclear plants worldwide. Last year in the United States, nuclear power produced over 500 billion kilowatt hours (kwh) of electricity, about equal to our total electric power generation only 35 years ago; and this nuclear power production continued the perfect U.S. safety record of no radiation injuries or deaths due to nuclear power. Last year the world's nuclear generation of electricity displaced the consumption of over one and a half billion barrels of oil. This is particularly important to the long term energy security of the United States as our importation of oil has increased to the point where we now exceed import levels existing before the oil embargo of 1973 and our importation is projected to increase to even higher levels in the future. Indeed oil companies and the American Petroleum Institute warn that on our present course, OPEC in the 90s is apt to be stronger than OPEC in the 70s.

Last year worldwide nuclear power generation reduced the discharge of CO_2 into the atmosphere by over a billion tons or about half the CO_2 discharged by all U.S. fossil fired plants. Our recent weather patterns and lack of normal rainfall have raised new questions and concerns of global warming and the greenhouse effect. If the greenhouse effect proves to be a real environmental problem, certainly use of nuclear power is one of our prime choices for major ameliorating action.

I believe it is also important to recognize that the success of the U.S. non proliferation policy in the past was due to our technical leadership that allowed us to constructively influence nuclear energy development and use in peaceful directions. Indeed, some seem to have forgotten that the intent of President Eisenhower's Atoms for Peace program was not nuclear power for the U.S. but rather international nuclear technology leadership by the U.S. so that the widespread international movement toward nuclear weapons could be redirected. If we hope to continue such leadership, we must provide consistent support to key programs aimed at timely advanced reactor development and build upon the excellent results in these programs to-date. Otherwise the U.S. will send a message to the world that it is giving up its nuclear power leadership role. I might note that this will not only adversely effect our foreign policy (nonproliferation) objectives, but will also undermine and erode U.S. industrial capability to maintain the significant, current, positive trade balance in this industry.

Let me now turn to specific key programs and their positive results. As indicated in my introduction, the past decade led to an environment not supportive of the development and construction of improved reactors in the U.S. Over this period, some U.S. reactor manufacturers have continued to make significant technological improvements by working with overseas partners and customers where the environment for nuclear power is more favorable. These partners and their governments have recognized the value of this U.S. industrial capability and maintained their long standing relationships in the development of advanced designs. Such was the case for GE and its international partners in the development of the Advanced Boiling Water Reactor (ABWR). This development effort, which has spanned over 10 years, has resulted in an advanced reactor design which takes advantage of 30 years of BWR experience. Its advanced features have been fully tested in a development program costing in excess of a quarter of a billion dollars. The largest private utility in Japan, Tokyo Electric Power Co., has ordered two such plants for commercial startup in 1996 and 1998. General Electric is a key member of the industrial joint venture supplying these plants; GE being responsible for the nuclear island, nuclear fuel and turbine generators for both 1350 MWe plants. Hitachi and Toshiba are partners in this venture and will have responsibility for the balance of the plant. The technology incorporated in these plant designs reflects state of the art technology applied in an evolutionary progression of the extensive BWR experience base.

The ALWR design certification program initiated by DOE and approved by Congress in 1987 is a major step forward to adopting the advanced light water reactor designs, such as ABWR, for the United States. This government program, in conjunction with the Electric Power Research Institute (EPRI) requirements program and the advanced designs provided by industry, can provide the basis necessary to achieve regulatory certification of modern standard designs that will help to effectively control the excessive costs and schedules now associated with U.S. nuclear plants.

The results to-date from the DOE-GE program for regulatory review of the total ABWR plant by the NRC have been excellent and the program is on schedule for the targeted 1991 regulatory certification of the design. It is hard to overemphasize the government leadership and dedication necessary to successfully complete a meaningful standardization and certification program. We are confident, from a technical standpoint, that this can be done. This key program is establishing the requirements for standardization and regulatory certification and is a program which requires modest, but important, near term government support to complete its focused objectives. I believe incidentally, that success of this standardized plant approach would be greatly aided by future nuclear licensing legislation affirming congressional support of the approach.

We believe it will also be advantageous in the future to economically be able to deploy advanced nuclear plants in increments of 500-600 MWe. Such designs should benefit from existing advanced light water reactor technology, such as described above, but must also benefit from enhanced features such as simpler, more passive safety features and natural coolant circulation which offset the diseconomy of scale affecting such midsize systems. To this end EPRI and DOE, with your support, initiated a development program that is providing the type of data necessary to assess the performance of such features and support design completion and regulatory certification. The results to-date on these feature tests applicable to the 600 MWe Simplified Boiling Water Reactor (SBWR) have been very positive and support further development.

DOE has issued a Request for Proposal for the next phase of this evolutionary advanced reactor development program leading to regulatory certification by 1995 and technical readiness for commercial deployment in the late 1990s. This key program is based on a cost sharing approach by the private sector, including contributions from international partnerships. Indeed, we have significant interest in the SBWR from our associates abroad. Such cost shared programs require consistent government and private sector support if they are to be successful.

The light water reactor (LWR) is clearly the technology of choice for the near term. It has received extensive development and has a well established 30 year industrial infrastructure and experience base. We commend the Department of Energy and Congress for their insight in establishing these important programs and fully support their continuation to completion. If successful, these efforts will go a long way toward reestablishing the U.S. nuclear option and could restore industry's confidence in the nuclear market.

The revival of the LWR in the U.S. and its widespread use throughout the world raises the issue of the long term future of nuclear power. The LWR systems rely on the economic availability of a finite resource, uranium. Although there appears to be sufficient uranium to supply LWRs for at least several decades, the real promise of energy security through nuclear power is an unlimited energy supply through the breeder reactor - possibly an urgent need if the greenhouse effect is real.

The development and demonstration of an economic advanced liquid metal reactor (ALMR) design continues as a key ongoing effort internationally. The ALMR, once fueled, can continue to maintain its capacity with essentially no new uranium supplies, thus providing the highest most efficient use of uranium resources. Introduction of the ALMR can eliminate the uncertainty over future uranium supply and assure that nuclear power can maintain essentially any level of economic capacity that may be required. This has been the promise of the liquid metal reactor development since the early introduction of nuclear power and continues to be its long term goal. While this capability alone justifies continued, timely development of the ALMR, current studies show a potential nearer term benefit in the form of enhanced nuclear waste management. This is because the ALMR has the fuel recycle capability to eliminate the long life high level actinides of its own waste stream and can be further utilized to similarly utilize the discharged fuel from the water reactors.

The current DOE program for development of an innovative ALMR was initiated in 1985 and has utilized a series of competitive awards leading to selection, in July 1988, of a single national design for further development. This design based on the PRISM concept, initiated by GE in 1981, is being carried forward by a results focused industrial team utilizing the complementary skills of General Electric, Westinghouse, Bechtel, Burns & Roe, United Engineers and Constructors, Babcock and Wilcox, Foster Wheeler and Borg Warner; thus assuring a competitive industry capability for commercial application when needed in the next century.

This ALMR design emphasizes a low pressure pool type modular reactor system enhanced by passive and inherent safety features, modular construction with maximum factory fabrication, seismic isolation for wider site acceptability and multiple module capabilities for improved operability and availability. The plant is based on using a number of standardized reactor modules, fabricated in a factory and shipped by whatever combination of barge, rail or road transport is most economic for a particular site. The target commercial product utilizes three reactor modules in standardized power blocks of 465 MWe and since each power block operates independently, plant size flexibility is provided to the utilities to minimize investment risk and enhance the ability to meet uncertainty in power demand growth.

This ALMR design uses the metal fuel under development by Argonne National Laboratory (ANL) in its IFR program. The interaction of fuel and reactor design, providing excellent negative reactivity feedback, allows for the inherent shutdown characteristics of this ALMR system. This negative feedback coupled with the passive, always operating emergency decay heat removal system provides excellent response to potential off normal conditions such that public safety and investment protection are provided through self-regulation, even without operator intervention. Additionally, the potential cost advantages from the fuel recycle system and simplified safety features provides for attractive economics that are competitive with future alternative energy sources. While it's still early in the development process, the cost projections have been extensively reviewed by a DOE

led peer review team and are felt to be representative of the potential of the ALMR system.

As stated earlier the ALMR system provides capability for enhanced waste management. Not only does the modular approach to the ALMR permit component replacement as necessary, but also reduces the volume of replaced components required for alternate plant designs of larger size. Further, the sodium coolant in the ALMR precludes crud buildup resulting in factors of two to four times less waste volume and two to three orders of magnitude less curies per unit of power produced for ultimate waste disposal.

Perhaps the most important waste management enhancement, however, is the opportunity for improvement in waste from the fuel cycle as a result of the reference metal fuel pyroprocess being developed by ANL. Not only are waste volumes reduced through smaller process streams and fewer process steps, but importantly the long life high level waste actinides are processed with the recycled plutonium and uranium for reuse as fuel in the reactor. This can reduce the high waste storage requirement from millions to hundreds of years. This same capability applied to LWR spent fuel together with the ALMR reactor capability to burn the recycled fuel and actinides as startup fuel without significant technical or economic impacts offers an attractive waste management option for the U.S. Timely deployment of the ALMR system in concert with a viable ALWR nuclear option could provide an enhanced overall energy system approach.

We have achieved a focused LMR program via the competitive process. The industrial team, in concert with the national labs (ANL, ETEC, WHC and ORNL) providing key technology development, has proposed a multiyear plan for development and full scale prototypic testing of the ALMR to support regulatory certification. This plan builds on the five year cost sharing industrial team contract just signed by DOE in January 1989. It includes an aggressive private sector partnership and cost share, and also includes continued international participation in the development and test program. The overall program, however, cannot be successful without government support in the near term consistent with the DOE contract. The Fiscal 1990 requested funds for the ALMR design and technology support are inconsistent with the contract and insufficient to continue this successful program.

In conclusion, it is likely that the demand for electricity will continue to grow. The world petroleum problem over the long term is apt to get worse, not better. None of us can be sure of how long we can rely on fossil fuels as the predominant source of our energy supply. Nuclear power could be a vital factor in assuring future energy security but this assurance is far from certain today.

I believe there are three basic elements for a successful future national nuclear power program. First, the near term maintenance of the nuclear option should be pursued through efforts leading to the regulatory certification of standardized advanced LWR designs. Second, and the subject of another hearing, we must get on with a successful waste disposal program. This will have the dual effect of aiding in the public acceptance of nuclear power and demonstrating and exerting U.S. international leadership. And finally, for the longer term, and for continued international leadership, we should proceed with the demonstration and certification of the ALMR concept to assure these plants can be constructed and operated with user confidence and public acceptance and be technically ready for application when needed for U.S. energy security and/or waste management enhancement.

Industry and government will have failed the American people if we do not place a meaningful nuclear option before them. To this end we urge the Committee to support the key programs discussed above.

STATEMENT OF PHYSICIANS FOR SOCIAL RESPONSIBILITY

Summary of Recommendations:

(1) The subcommittee should fund independent health studies, including dose reconstruction and epidemiological research, of workers at and communities surrounding all DOE facilities.

(2) The subcommittee should require immediate public disclosure by DOE of all records on radiation releases, environmental monitoring data, human and animal health studies, and the pooled occupational health and radiation exposure records of all workers who have been involved in nuclear materials production.

(3) The subcommittee should supplement the Bush Administration's FY 1990 request for remedial action and risk containment at sites where identified contamination poses environmental and human health threats. The subcommittee also should increase appropriations for speedy decommissioning and decontamination of DOE reactors and buildings that are no longer in use.

(4) The subcommittee should not fund development or construction of additional nuclear weapons production facilities in FY 1990.

(5) The subcommittee should appropriate funds to begin building a larger infrastructure to support risk containment, waste management and clean-up activities that will take several decades: laboratory facilities for waste sample analysis and site characterization; research and development of new waste handling and clean-up technologies; improved environmental monitoring around DOE sites; and technical expertise to support all of these activities.

I am David Lewis, Director for Policy and Legislation at Physicians for Social Responsibility (PSR). PSR is a national organization of 60,000 health professionals and citizens, founded in 1961 to educate the medical community and the general public about ways to reduce the threat of nuclear war. PSR is the U.S. affiliate of the International Physicians for the Prevention of Nuclear War, which was awarded the Nobel Peace Prize in 1985.

The Current Situation

As physicians, we are deeply concerned about the public health of the people of this country. Today, the greatest threats to our national security are internal health risks: AIDS, poverty, inadequate medical care, and man-made damage to our natural environment. We are convinced that the health and safety problems associated with nuclear weapons production have reached an emergency level and currently pose one of the gravest threats to the public. The situation demands your immediate attention.

In the last year, revelations about DOE facilities have included:

* intentional releases of radionuclides and other toxic substances into the air, water and soil;
* plants run without adequate worker protection or safety precautions;
* insufficient monitoring of the workplace and the environment at DOE sites, and incomplete records of releases, accidents, waste storage and worker health;
* toxic and radioactive waste accumulating in thousands of dump sites, many uncatalogued and unmonitored;
* hazardous materials being transported through major U.S. cities.

In February, the General Accounting Office reported to the House Budget Committee:

> . . . inattention and negligence in complying with environmental laws has resulted in widespread contamination at DOE installations. More ominously, the environmental contamination has spread off-site at some facilities where it could potentially affect the public in surrounding communities. Moreover, some sites may be irreversibly contaminated and DOE may have to place them in long-term institutional care.

As a result of decades of secrecy and willful neglect, the American people still do not know exactly how serious the problem is. Congress still has no comprehensive, detailed, independent analysis of the situation. Even this subcommittee lacks reliable facts about the scope of the environmental and human damage already caused, future weapons materials needs in a changing international environment, current hazards at operating and shut-down facilities, the costs of decontamination, risk containment, environmental restoration, waste storage and disposal, and potential compensation of victims.

Independent Review and Data Release

In reponse to these developments, PSR called upon the President and the Secretary of Energy six months ago to endorse a comprehensive, independent review of health and safety practices at all DOE facilities, to be conducted by a special commission with members nominated by major national health organizations. We also urged them to make public all relevant data on environmental and safety hazards at DOE nuclear weapons production facilties, as well as all historical records of radioactive and toxic releases from those facilities.

The Bush Administration has not been forthcoming on any of these requests. Instead, DOE officials have given Congress and the public "don't worry, be happy" reassurances that internal Department efforts are sufficient to resolve all problems at the complex. In the face of what is already known about these problems, such an attitude is unacceptable.

To give us a more accurate, impartial picture of the damage DOE facilities have caused and the threat they still pose, we urge the subcommittee, beginning this year, to (1) **fund independent health studies of workers at all DOE facilities and studies of the surrounding communities.** These studies should include efforts to reconstruct radiation doses received in the past by DOE employees and the general public from the facilities. The DOE's emphasis on warhead production to the detriment of health and safety demonstrates a clear conflict-of-interest, which has been reflected in DOE-contracted health studies in the past. New studies must be conducted by agencies outside of the DOE, with data and results made available for technical peer review by independent health professionals.

Conducting the important epidemiological research described above requires full access to all existing data on environmental contamination and human health threats from DOE facilities, much of which is still classified by the department, shielded from public scrutiny and independent analysis. To facilitate candid and independent examination of health and environmental risks, the subcommittee should therefore (2) **require immediate public disclosure by DOE of all records on radiation releases, environmental monitoring data, human and animal health studies, and the pooled occupational health and radiation exposure records of its**

entire labor force. Our government cannot claim that "national security" justifies withholding basic environmental, safety and health information from the public. The American people have the right to know the true impacts of nuclear weapons production on their lives and their country.

DOE Budget Request: Business as Usual

The DOE's "2010 Report" and the Bush Administration's budget request for Fiscal Year 1990 continue to emphasize weapons production over environmental clean-up, public health and safety, precisely the policy that produced the current problems throughout the complex. The DOE has acknowledged that its proposed clean-up budget is inadequate, and is based on an incomplete review of toxic and radioactive contamination at its facilities. DOE Deputy Assistant Secretary for Environment Raymond Berube recently admitted to the Senate Armed Service Committee, "Clearly our needs exceed what's in the Fiscal 1990 budget request."

Even assuming the DOE has correctly estimated total clean-up costs at $100 billion, annual spending would have to increase to an average of $5 billion to complete the clean-up in 20 years. But DOE's budget plan for next year is less than 10 percent of that $5 billion. Of the DOE's $9.4 billion FY 1990 military budget request, only $372 million is earmarked for remedial action to minimize contamination of the environment from DOE's 3,000 hazardous or radioactive waste sites. And only $29 million is allocated to decommission closed reactors and begin to decontaminate them, a task the GAO estimates will cost $15 billion in total.

The subcommittee must rectify this imbalance by (3) supplementing the Bush Administration's FY 1990 request for remedial action and risk containment at sites where identified contamination poses environmental and human health threats. Also, the subcommittee should appropriate increased funds for speedy decommissioning and decontamination of DOE reactors and buildings no longer in use.

At the same time it is underfunding urgent clean-up tasks, the DOE is requesting Congressional authorization for a new generation of weapons production facilities that would cost $60 to 100 billion. This request comes in spite of the United States' large "cushion" of stockpiled plutonium, in spite of expected arms control agreements like the START treaty that would add warhead material to the stockpile from missile reductions, and in apparent ignorance of new Soviet interest in agreements to reduce or suspend production of plutonium and highly-enriched uranium for warheads.

Because the DOE has largely ignored these factors, the subcommittee should carefully examine actual needs for nuclear weapons materials, instead of hurrying to rebuild the production complex for another forty years of the arms race. Because the DOE clearly has not adequately explored alternatives for meeting U.S. stockpile requirements, this subcommittee should reject the DOE's production complex modernization plans and (4) refuse to fund development or construction of additional nuclear weapons production facilities in FY 1990.

Build a Clean-up Infrastructure

For much of the DOE nuclear weapons complex, "clean-up" is truly a euphemism. Current technologies, if funded at higher levels, can slow down the radioactive and toxic contamination from DOE facilities, and may be able to reduce somewhat health threats to the public. But the GAO has already testified that many DOE sites are too contaminated for environmental restoration -- even stabilizing

the waste to prevent further environmental degradation will be a challenge at these sites. If they can never be made safe enough for other uses, these locations may become "national sacrifice zones".

Given the extent of the damage and the extremely hazardous materials involved, this "clean-up" promises to be one of the dirtiest jobs in history. We already know there will be high risks and high costs involved, and in many cases the technology we are relying upon for safe waste handling, storage and disposal have not yet been developed or tested. The Comptroller General has testified that the DOE may still lack sufficient technical expertise to manage its nuclear facilities -- the addition of a massive clean-up task lasting several decades will demand enoromous new human resources. Finding ourselves in this situation, we ask the subcommittee to consider its historical role as builders, and to build something the country desperately needs: not a new generation of factories to build more nuclear weapons, but an infrastructure for clean-up of radioactive and toxic wastes.

The subcommittee should (5) appropriate funds to create a larger infrastructure to support risk containment, waste management and clean-up activities that will take several decades. That means laboratory facilities for waste sample analysis and site characterization; research and development of new waste handling and clean-up technologies; improved environmental monitoring around DOE sites; retraining of workers from production facilities for clean-up activities; and technical expertise to support all of these activities. If even a fraction of the money and minds currently devoted to building weapons of mass destruction is redirected toward this task, we may find solutions in time to save lives and limit damage.

Public Confidence Requires Candor and Independent Oversight

The guiding maxim of physicians is "First, do no harm." Similarly, the federal government must not permit U.S. citizens to be injured in the name of "national security." The known hazards posed by DOE nuclear weapons facilities, those still operating and those that have been shut-down, make untenable the secrecy and obfuscation that prevailed in the complex for decades. Congress must not wait for individual citizens to acquire additional proof of past unsafe operations or current environmental and public health risks at nuclear facilities. The burden of proof is on the federal government to demonstrate to the American people that continued production of nuclear weapons is not creating undo environmental and human health risks.

To re-establish public confidence that the government is not poisoning its own citizens, a new level of candor and independent oversight must be imposed on the DOE by Congress. Candor is necessary to shine the light of public scrutiny on the environmental, health and safety aspects of nuclear weapons production, which have been kept secret from the public without justification. Independent oversight, especially of these aspects that affect the public health, is necessary to overcome the DOE's inherent conflict-of-interest.

We again urge the subcommittee to require DOE to disclose its health and environmental records, and to appropriate funds for independent health studies. Only with complete information, in an atmosphere of candor and open public access, can independent analysts render an accurate assessment of the problems and help Congress to prescribe responses.

PSR and many other national organizations stand ready to work with you and the Congress to produce the best solutions to these problems. We thank the subcommittee for its consideration of these recommendations.

STATEMENT OF THE SOCIETY OF NUCLEAR MEDICINE AND AMERICAN COLLEGE OF NUCLEAR PHYSICIANS

SUMMARY

FY 1990 FUNDING RECOMMENDATION

The Nuclear Medicine research program under DOE's Biological and Environmental Research (BER) program has been severely underfunded over the past decade. Because of flat annual funding increases that have not kept pace with inflation, disruptive earmarks of scarce Nuclear Medicine funds, and internal programmatic reallocations within the BER program, there has been insufficient funding to support the base Nuclear Medicine research program where innovative research projects originate. In addition, congressionally directed funds for Nuclear Medicine research have been siphoned off for other purposes by the agency. To reverse this harmful trend and to restore America as the leader in this field, a substantial and steady infusion of federal funds is needed to restore growth and promise in the DOE national Nuclear Medicine research program.

- **The Society of Nuclear Medicine and the American College of Nuclear Physicians recommend a $5 million increase for the DOE Nuclear Medicine research program for FY 1990. This increase would bring the total program budget to $42.6 million in FY 1990. The Society would also recommend careful scrutiny, by the Congress, in the utilization of these funds to assure they are maximally used for their intended purposes.**

PROGRAMMATIC RECOMMENDATIONS

- We believe this Committee should encourage DOE to initiate a process to identify a workable solution to the growing restricted availability of radioisotopes that are critical for all of biomedical research and research in general.

- The Society and College understand that construction on the Center for Molecular Medicine and Immunology at the University of Medicine and Dentistry in New Jersey has not yet begun, despite the fact that Congress appropriated $7.5 million for this project in FY 1988. If this contract expires prior to the expenditure of funds for construction, the Society and College strongly urge Congress to return these funds to the base Nuclear Medicine program, rather than returning the funds to the General Treasury.

- The Society and College urge the Appropriations Committee to reexamine the wisdom of spending $5.3 million in FY 1990, as proposed by the Administration, to keep the Idaho National Engineering Laboratory power reactor in standby while the lab improves its research proposal for boron neutron capture therapy (BNCT). There are other labs across the country that are capable of and interested in performing this type of research. Since the National Cancer Institute did not favorably review the INEL project, we question why so much federal funding is put back into the project each year. The College and Society urge the Committee to restore any BNCT funds at INEL to the base Nuclear Medicine program.

- The Society and College strongly urge Congress to reaffirm commitment to the traditional peer review process in awarding federal research funds.

DOE support for Nuclear Medicine research is highly leveraged by working off of the basic nuclear technologies developed throughout the agency by developing instruments and procedures used in the understanding, treatment and diagnosis of disease. Research is conducted in five primary areas: stable isotope research, radioisotope development, radiopharmaceuticals, instrumen-

tation and clinical feasibility. The multi-disciplinary research of the DOE NM research program draws upon the expertise of physics, chemistry and medicine, and is rapidly transferred to everyday clinical practice not only in Nuclear Medicine, but in numerous other fields of medicine including neurology, cardiology, oncology, hematology, gerontology, endocrinology, orthopedics, gastroenterology, nephrology and pulmonology.

Nuclear Medicine represents the safe application of radioisotopes in the diagnosis and treatment of such diseases and disorders as heart disease, cancer, stroke, Alzheimer's disease and other dementia, epilepsy, developmental disorders, mental health disorders and drug abuse. New breakthrough technologies developed with DOE support such as positron emission tomography (PET) are taking physicians to new frontiers by allowing them to assess, non-invasively, the functional metabolism, chemical processes and abnormalities of the human body long before symptoms of major diseases and disorders are even manifested. PET is allowing the development and implementation of new treatments and cures of disease.

Other DOE-supported NM research includes the development of new and improved radiolabeled tracers, the development of high-resolution PET and single photon emission computed tomography (SPECT) procedures for measuring human biological functions of the brain and heart, the refinement of imaging instrumentation, the development of effective approaches in delivering radiation therapy to cancer sites using monoclonal antibody-based radiopharmaceuticals, and clinical feasibility studies to determine the efficacy of new NM procedures in the clinical setting.

Among the most promising areas of DOE-sponsored NM research are:

Cardiac Nuclear Imaging

One of the best examples of the rapid transfer of DOE research results to the clinical setting is the use of PET to differentiate between reversible myocardial ischemia, which is treatable and myocardial infarction, which is dead tissue and therefore not treatable. Since it has been estimated that 30-40 percent of heart attack victims who receive bypass surgery do not benefit from it in terms of improved cardiac function (at a cost exceeding $9 billion per year) the usefulness of PET in selecting patients who would benefit from these costly, invasive procedures would not only improve patient care, but would yield tremendous savings.

DOE-sponsored research is also aimed at the development and refinement of SPECT, a technology that follows some of the same general principles as PET, but which is much less expensive and can be readily available in most Nuclear Medicine departments across the country. However, DOE spends only 5 percent of its operating funds on instrumentation and equipment. To help introduce state-of-the-art equipment so vital to biomedical research, more funding should be put into replacing aging equipment and to develop state-of-the-art PET and SPECT devices.

The Society of Nuclear Medicine and the American College of Nuclear Physicians, representing over 12,000 physicians, scientists, radiopharmacists, chemists, physicists, technologists and other professionals actively engaged in the clinical practice of and research in Nuclear Medicine, appreciate the opportunity to present our views on the FY 1990 budgetary needs of the Department of Energy's Nuclear Medicine (NM) research program.

The Society and College have submitted testimony to this Committee and others over the past six years in an effort to draw congressional attention to this worthwhile program that has been sorely underfunded in relation to the tremendous return-on-investment it has yielded over the past decade. We deeply appreciate the past support of this Committee in providing increases for the NM research program; unfortunately, however, these increases have not kept pace with inflation, and have been siphoned away to specific projects and programs outside of the base NM research program. Out of the present FY 1989 budget of $37 million, we estimate that only $24 million goes to valid Nuclear Medicine research projects.

The DOE NM research program has been at a crisis stage for several years now. Because of stagnant funding levels, research projects are being curtailed, or not started, valuable employees are being dropped, and the training of bright young investigators is dwindling. The United States was once the leader in Nuclear Medicine, but this leadership position is being surpassed by European countries and Japan, which infuse substantial amounts of funding into civilian research and development. We are also concerned that Nuclear Medicine research facilities in the United States, along with other research facilities in general, are not being maintained due to insufficient funding. Aging laboratories and equipment must be rebuilt across the nation. The more imminent danger is that the best and brightest investigators will begin to desert DOE laboratories and the field of Nuclear Medicine, and it will be difficult to recruit young scientists and physicians into the field.

The Society and College respectfully urge this Committee to take the lead in bolstering the DOE Nuclear Medicine research program by increasing its budget by $5 million in FY 1990 to a level of $42.6 million. Such an increase may seem lofty in this era of severe budgetary constraint, but it is our sincere assessment of what is needed not only to maintain, but to bolster a program that has made substantial contributions toward advancing knowledge in biological science and using this knowledge to improve medical care and hold down rising medical costs.

Medical research funding is viewed by the public as a wise investment, even in a tight budgetary environment. A 1985 OTA study reported that 79 percent of those surveyed agreed that, even in the absence of immediate benefits, "scientific research which advances the frontiers of knowledge is necessary and should be supported by the Federal government."

THE DOE NUCLEAR MEDICINE RESEARCH PROGRAM

Since the 1946 passage of the Atomic Energy Act, the Department of Energy (formally Atomic Energy Commission) has had the mandate to "conduct research and development on the peaceful use of radiation for medical diagnosis and treatment of human disease." This mandate was reinforced by President Eisenhower in his "Atoms for Peace" program unveiled in 1953. We believe that the NM technologies growing out of DOE investments in response to these mandates represent some of the greatest accomplishments of the nuclear age.

Neurologic Applications

DOE support has contributed significantly to NM research into the chemical basis of normal and disease processes of the brain. For example, PET research is providing new insights into chemical aberrations in the brain associated with Alzheimer's, Parkinson's, stroke, epilepsy, neuropsychiatric disorders, learning disorders and drug addiction. With PET, physicians are now beginning to understand the fundamental nature of these disorders, can differentiate between them, and have developed new chemical markers for selecting and improving treatment.

Cancer

DOE-supported research has yielded vast new knowledge not only in the early detection and diagnosis of cancer, but also in determining the degree and nature of the tumor non-invasively (i.e., as opposed to performing biopsies). This information guides physicians in determining the best course of treatment for different types of tumors and in monitoring the patient's response to therapy and tumor recurrence. DOE also sponsors research in cancer therapy, such as the use of radiolabeled monoclonal antibodies which localize in malignant tissues of otherwise healthy organs. Cancer research is targeted at tumors of the brain, breast, prostate and pancreas, which together afflict hundreds of thousands of people each year.

Drug Abuse

DOE also sponsors research into the neurochemical mechanisms accompanying cocaine abuse. The Brookhaven group has recently been the first to map

cocaine binding sites in the living human brain with PET. UCLA has demonstrated the chemical dificiencies produced in the human brain from cocaine and amphetamine abuse. The increase in cocaine abuse, with its attendant socio-economic, legal and medical problems, was recently cited by President Bush as one of society's most urgent problems. Additional research support is needed to capitalize on the research advances in this critical area.

PROGRAMMATIC RECOMMENDATIONS

In addition to our recommendation for a $5 million increase in the DOE NM research program, the Society and College strongly believe that additional programmatic adjustments must be made to protect this relatively small but vital national resource.

First, there is now and for the foreseeable future a severe restriction in the availability of radioisotopes and radiotracers that are critical for all of biomedical research and research in general, including not only Nuclear Medicine research, but all other biomedical research and research in nutrition, agriculture, geology, astronomy or any science that requires the use of radiotracers.

The enormous DOE reactors and accelerators that currently produce these radioisotopes are not dedicated to providing a continuous, reliable supply of radioisotopes for biomedical research; therefore, these critical research materials are prepared only when other physics projects are not underway. This creates a precarious situation for investigators who must rely on an unreliable supply of this research resource. The Society and College therefore urge this Committee to encourage DOE to initiate a process to identify a solution to this problem, as it will only worsen in the coming years and is likely to require a substantial outlay of resources. The DOE should begin to address this problem now.

Second, it is our understanding that the $7.5 million appropriated in FY 1988 for the Center for Molecular Medicine and Immunology at the University of Medicine and Dentistry of New Jersey has not been expended due to legal problems surrounding the project. As the contract draws closer to its expiration, the Society and College fear that these funds, which are sorely needed in the base NM research program will be returned to the General Treasury. Since this money has already been appropriated, if unused by UMDNJ, we believe it should be transferred to the DOE base NM account to allow more vigorous support of the meritorious research projects already underway and new research ideas which are awaiting funding sources.

Third, we urge this Committee to take a leadership role in demanding accountability in the DOE NM research program. Last year, this Committee adopted report language protecting Nuclear Medicine research operating funds from internal reallocations of funds to programs outside of this account. The Society and College have not seen satisfactory DOE budgetary information detailing how scarce appropriations are spent, and would encourage this Committee to seek such information.

Finally, we respectfully urge this Committee to express its support for the traditional peer review process in the awarding of DOE research funds. Peer review ensures that scientific projects are reviewed competitively by a jury of the applicant's peers, and helps to ensure that public funds are spent wisely and judiciously.

DOE-sponsored Nuclear Medicine research has been at the forefront of exciting and important medical discoveries, yet it remains one of the lowest funded programs in the Department. Moreover, because it is not a line item in the DOE budget, we believe that congressional intent in spending appropriated funds has not been followed. Because of the enormous contributions of DOE NM research to the health of the American people, the Society and College respectfully urge this Committee and Congress to increase it's budget to $42.6 million in FY 1990, and to adopt our programmatic recommendations outlined above. This is a modest request relative to the benefit that will be derived from it. We are confident that an infusion of funds today will be returned many fold to the American public in terms of improved diagnostic and treatment capabilities, and therefore better medical care. Your support will be backed up by a grateful profession and American public.

STATEMENT OF EARL KELLY, DIRECTOR OF GOVERNMENT AFFAIRS, AMERICAN WIND ENERGY ASSOCIATION

Mr. Chairman and distinguished Members of the Subcommittee, on behalf of the members of the American Wind Energy Association(AWEA) it is an honor to submit this testimony for your consideration.

The American Wind Energy Association (AWEA) is a trade association whose members include manufacturers of wind electric turbines and turbine components, consultants specializing in renewable sources of energy, electric utilities, and environmentalists. Approximately 150 corporations are members of AWEA.

AWEA requests that this Subcommittee support an FY 1990 appropriation for Wind Energy Research of $12.2 million. This appropriation would support existing Department of Energy research in wind energy as well as a proposed Advanced Wind Turbine project. AWEA believes the Advanced Wind Turbine cold be built effectively as a joint venture between private enterprise and DOE. As shown later in this testimony, there is substantial evidence to support AWEA's request, in light of wind energy's contribution to a clean environment and to the generation of electricity.

As the distinguished Members of this Subcommittee no doubt know, wind energy is a clean, cost-effective, renewable means of electricity production. Today, there are approximately 16,000 commercial wind turbines operating in the United States. Wind turbines in the United States have an installed capacity of approximately 1,500 megawatts. In 1988, wind energy in the United States generated approximately 1.8 billion kilowatt hours of electricity.

Estimates show that in the United States, windpowered turbines, ultimately, could supply up to one trillion kWh of electricity per year, an amount equal to about 40% of current national consumption.

American wind turbines already are generating electricity at 7-9 cents/kWh, which is cheaper than power from many new nuclear plants and most other renewable energy sources.

In addition to being cost-effective and reliable, wind energy is a clean, non-polluting, renewable source of energy, and our industry makes a significant contribution toward alleviating air pollution and the emission of carbon dioxide. For example, each year the average-size commercial wind turbine prevents the emission of as much as 200 tons of carbon dioxide into the atmosphere, depending upon the fuel its output replaces. And, it prevents the emission of 9,110 pounds of sulfur oxides; 2,803 pounds of nitrogen oxides; and, 175 pounds of particulates each year, if the wind turbine offsets Midwestern coal as a source of energy.

Because wind turbines are efficient, reliable, affordable, and non-polluting, there is a large international market for these machines. Market researchers have estimated that between $3 billion and $6 billion of renewable energy equipment will be sold per year worldwide by the year 2000. In other words, nations seeking to expand their electricity generation capacity will purchase windpowered turbines, a fact that should substantially assist in our concerted efforts to improve the environment.

Unfortunately, though, American manufacturers of windpowered turbines must compete with heavily-subsidized machines from foreign nations, whose governments offer substantial incentives to their wind energy industries. One noteworthy example of these incentives is that in early 1988 the government of Denmark, a country with fewer people than the state of Virginia, agreed to give the Nation of India $25 million in aid, provided the funds were spent on Danish renewable energy equipment.

It is very disturbing to AWEA's members that, in light of the world's market for renewable energy technology, the Administration would cut by half, from $1 million to $500,000 the funding for the Committee on Renewable Energy, Commerce, and Trade ("CORECT"). As the Members of this Subcommittee know, CORECT was established under the Renewable Energy Industry Development Act (Public Law 98-370), and it currently coordinates Federal government activities to promote renewable energy exports.

For now, American technology in wind energy generation is the world's most advanced; however, unless a new generation of Advanced Wind Turbine is produced relatively soon, we will loose our technological edge, just as we are in the process of losing our international trade advantages.

The American wind energy industry has matured to the point where it is capable of learning from past experience and building a new generation of wind turbine. This new generation of turbine can tap the immense but undeveloped wind resources of this country and other parts of the world. In recent years, we have seen our technology and jobs go overseas. Fair and realistic appropriation levels for the wind energy program will help reverse this trend.

Historical Overview of Wind R&D Appropriations

In the 1970s, after the OPEC oil embargo, the U.S. Department of Energy (DOE) initiated an ambitious research and development program in wind energy that put the United States in the international vanguard of wind technology. In the 1980s, however, these budget levels were reduced sharply, and we have seen foreign countries and companies enter the marketplace and seize the initiative.

In the last nine years, the DOE budget for wind energy research and development has decreased to the point where appropriations are now a small fraction of what they were in 1981. The following table illustrates the declining appropriations for wind energy research and development:

Federal Appropriations for Wind Energy R&D

FY 1981:	$83.7 million
FY 1982	34.7 million
FY 1983:	31.4 million
FY 1984:	26.5 million
FY 1985:	29.1 million
FY 1986:	24.8 million
FY 1987:	16.7 million
FY 1988:	8.6 million
FY 1989:	8.8 million

The Administration's proposed FY 1990 budget calls for yet another reduction, and would appropriate only $8.35 million.

These reductions, coming on the heels of the expiration in 1985 of federal tax incentives for private investments in commercial wind energy systems, have seriously damaged the U.S. industry's ability to compete in the domestic and international arena. AWEA believes a budget increase is necessary for the industry to regain its leadership in the increasingly-competitive international marketplace.

There are now before the Senate Energy and Natural Resources Committee various proposed authorizing bills that would provide funding for the Department of Energy's efforts in wind energy research and development. For example, S. 488, the proposed "Energy Efficiency Technology Competitiveness Act of 1989," was introduced on March 1, 1989, by Senator Wyche Fowler, Jr., and many others, and was referred to the Committee on Energy and Natural Resources.

This bill, S. 488, addresses a number of renewable energies, as well as improved efficiency. However, as it pertains to the Wind Energy Research Pro-

gram, S. 488 would authorize the appropriation of $11 million, $12 million, and $12 million during FY 91, FY 92, and FY 93, respectively. The overall purpose for these proposed authorizations is to enhance the research and development of the cost-effectiveness of wind turbines. One stated purpose of S. 488 and of the Wind Energy Research Program, is to "reduce average wind energy costs to 3 to 5 cents per kilowatt hour by 1995," a rate significantly below the current rates of 7-9 cents/kWh.

Additionally, S. 488 would authorize appropriation of $1.2 million during each of FY 91, FY 92, and FY 93 to fund a joint research and development venture between the Department of Energy and private enterprise, to "design, test, and demonstrate systems employing critical enabling technologies for the conversion of wind energy so as to achieve, to the maximum extent practicable, the goals of the Wind Energy Research Program."

Finally, S. 488 would authorize appropriations of $1.2 million, $1.5 million, and $1.8 million for the CORECT Program in FY 1991, FY 1992, and FY 1993, respectively.

The American wind industry strongly supports the proposed joint venture and leading firms would make substantial financial contributions to the development and improvement of wind energy technology.

Other authorizing bills are now before various Committees of the Senate, and some of these proposals would authorize substantially larger appropriations for the DOE's wind energy R&D than would S. 488. Generally, these other bills, such as S. 324, the proposed "National Energy Policy Act of 1989," are part of our nation's efforts to gain energy independence and/or to reduce both air pollution and the emission of carbon dioxide.

The Advanced Wind Turbine

The DOE appropriation for wind energy performs a vital function: the department and the national laboratories conduct technical and economic studies that are on the forefront of aerodynamics, structural dynamics, advanced components and other supporting research. From these studies the commercial industry obtains a better understanding of loads imposed on a machine and the designs needed to build more cost-effective and reliable turbines.

In addition to existing research efforts, funds are needed for the design, fabrication and testing of an advanced wind turbine prototype.

The advanced wind turbine envisioned by AWEA and proposed by members of the American wind industry would be in the intermediate size (200-500 kW) and would incorporate major advances in turbine design and operation.

The advanced wind turbine would offer three distinct advantages over existing models:

(1) It would operate economically in lower wind speeds;

(2) It would generate electricity at a cost of about 5 cents per kilowatt hour, in contrast to current costs of 7-9 cents per kWh; and,

(3) It would be larger than most commercial machines on the market and would be more reliable, thus reducing overall life-cycle costs.

A turbine of this size and design would be optimal for utility development. If it were commercialized as envisioned, AWEA expects that several electric utilities in the country would invest as equity owners in windpower plants using a machine of this type.

The Joint Venture R&D

AWEA strongly supports a joint venture between the federal government and private enterprise, whereby government and business can work together for devel-

opment of the advanced turbine discussed above. Therefore, AWEA strongly supports the provisions of S. 488 whereby the Secretary of Energy would be directed to form joint venture research and development projects in renewable energy with the private sector.

We believe the joint venture approach would allow the federal government to develop the advanced wind turbine in cooperation with leading private firms in the United States. And, we believe it is a safeguard to our nation's taxpayers that under the joint venture approach, private enterprise would make financial contributions to the research and development of the Advanced Turbine.

AWEA's Proposed Appropriations for Wind Energy

Mr. Chairman and Members of the Subcommittee, AWEA maintains that for FY 1990 this Subcommittee should appropriate, at a minimum, monies in keeping with those proposed authorizations found in S. 488. Specifically, for FY 1990 there should be appropriated for wind energy research and development the amount of $11 million for R&D, and an additional $1.2 million for the joint venture discussed above. These increased monies are needed urgently, to enable DOE and the wind energy industry to develop an advanced wind turbine, as well as to continue existing research and development programs.

The Advanced Turbine holds much of the key, if the United States is to participate in the very active international market that exists for utility-grade wind turbines.

Additionally, AWEA encourages this Subcommittee to fund the Committee on Renewable Energy, Commerce, and Trade ("CORECT") at least at its current level. CORECT serves an invaluable service when it coordinates Federal government activities aimed at promoting renewable energy exports, including wind energy technology.

AWEA urges Congress to halt the nine-year decline in federal R&D funding for wind energy and provide funding for the advanced wind turbine program. Our industry cannot remain competitive if the U.S. government does not support wind technology with stable funding.

Mr. Chairman and Members of the Subcommittee, this concludes the testimony of the American Wind Energy Association, and we will be pleased to respond to any of the Subcommittee's questions.

STATEMENT W.D. VON GONTEN, HEAD, PETROLEUM ENGINEERING DEPARTMENT, TEXAS A&M UNIVERSITY

THE NEED FOR GRADUATE FELLOWSHIP SUPPORT IN PETROLEUM ENGINEERING

There are several reasons why it is important to increase the number of fellowships available to graduate students in petroleum engineering, particularly with funds that come from federal sources. Briefly, the following significant needs can be enumerated, some of which are inter-related:

* the need to focus more high-level technology on the task of producing the oil that remains in the petroleum reservoirs of the U.S.;
* the need to maintain the historic U.S. world-wide position with respect to the development of petroleum technology;
* the need to recognize a public interest in and public support for research and graduate work in petroleum engineering;
* the need to increase the total number of petroleum engineering graduate students;
* the need to increase the number of U.S. citizens that are enrolled in petroleum engineering graduate work; and
* the need to recognize equity for the field of petroleum engineering in the allocation of federal funds for fellowships.

As any non-renewable resource base is depleted, it becomes necessary to apply more sophisticated technology to its development and use. Leaner deposits require a greater degree of effort. New concepts may be borrowed from other fields, more attention must be given to the effectiveness of auxiliary operations, and system approaches must be developed. For the development of petroleum resources, these trends mean that more attention must be given to fundamental concepts concerning the conditions for the existence and recovery of petroleum, that the use of scientific concepts with respect to the geological environment must be explored fully, that mechanical systems for drilling and producing must be analyzed fully, and that the principles pertaining to reservoir simulation and management must be improved.

United States petroleum resources are acknowledged by all to be on the wane. As of the end of 1987, U.S. petroleum reserves were estimated to be 27.3 billion barrels, 3.4% of the world reserves. Our production was 3.05 billion barrels, and the ratio of our reserves to production was only 9.99 compared to the world ratio of 38.8. In this country, moreover, we had more than 624,000 producing wells, which was 81.6% of all the producing wells in the world. The daily average production per well in the U.S., at 13.4 barrels, was the lowest of any country. In the current economic situation, furthermore, the amount of U.S. production has been declining by about 3% per year for the past several years. The net result of this resource situation is that our imports of petroleum are again on the rise. These trends need to be reversed as much as is possible.

The state of petroleum production technology today is such that the industry recovers only part of the oil known to exist in the reservoirs that have been found. The estimates of the amount of this recovery will vary but are the order of one third. Hence, it is estimated that about 300 to 350 billion barrels of the approximately 500 billion barrels found will not be produced by our current technology.

The specific targets for improved and advancing petroleum production technology are several-fold: to make it possible to produce increasing amounts of the oil that is known to be present but is not now considered to be a part of the recoverable portion, to increase the rate at which this remaining petroleum can be recovered, to improve the efficiency of drilling and production operations so fewer individual wells are needed, and to use the increased knowledge concerning the nature and operation of reservoirs to assist in finding and managing new reservoirs, and to ameliorate any negative environmental consequences that are attendant upon these resource activities.

Teamwork from many disciplines, focused as a single approach for understanding and improving petroleum technology, is essential. The academic departments of petroleum engineering, as a part of the university communities, must take a leadership role in this respect. These departments are in the unique position of being able to approach this challenge from a fundamental point of view, to bring together experts from a variety of disciplines as needed, and to expose the challenges and problems of the technology not only to other research fields but also to young persons who are entering upon their professional careers. In the final analysis, the challenge cannot be met unless we develop a resource of dedicated persons. This includes experts from other fields who can be drawn to the challenge and students who are willing to prepare themselves with the knowledge that is needed to undertake the task.

Petroleum technology is a unique development of the United States which has exported this technology to the rest of the world. In recent years, however, activity in other countries for developing petroleum technology has increased markedly. The Society of Petroleum Engineers, a professional society that was founded in this country and which is still headquartered here, now has about 40% of its sections in other countries. In a recent SPE listing of dates for upcoming conferences and meetings, covering the period February through October, 1989, 11 out of 25 events were scheduled to be held at places outside the United States.

The world-wide extent of petroleum technology today is further evidenced by the Offshore Technology Conference, that has been held annually in Houston, Texas for 21 years. More than 1200 manufacturing and service and supply companies from throughout the world now take part in a four-day exhibition of products and services that encompass more than 400 major categories. Similar conferences are held in Singapore and London.

The primary position and the technological lead that the United States has held with respect to the development of petroleum production technology is no longer as certain as it was in the past. Universities in other countries are now offering curricula in petroleum engineering, and their faculties are conducting basic research programs in the field. Petroleum Engineering and Technology Schools (1987-88), a publication of the SPE, lists 28 institutions in 19 other countries now offering petroleum engineering degrees, a group that is equal in number to those in the U.S. In many of these foreign institutions, the relative proportions of faculty time for research, as compared to teaching, and the relative emphasis on graduate program versus undergraduate study will be greater than they are for the average petroleum engineering department of the United States.

In short, the export value of petroleum technology from this country in the past has been large and successful. Now the other countries of the world are increasing their competitive position in the field. If the U.S. lead is to be maintained, not only in terms of goods and services but also in terms of professional expertise, the university petroleum engineering departments of this country must play a key role. They need to be more competitive in basic research for support of the technology and in the production of professionals who will continue to lead the field. Both of these goals will require larger graduate programs and more support for graduate students.

The historical support for fellowships in particular, and for research in general, within petroleum engineering departments has been largely supplied by the petroleum industry. In this respect, the petroleum industry was among the pioneers for recognizing the needs of academic departments. As the agencies of the federal government became sponsors of academic research and as federal programs for fellowships became established, the petroleum engineering departments did not benefit to any great degree. A major reason for the absence of federal sponsorship related to petroleum engineering has been the generally held impression that the industry was doing the job. Two other factors were that the departments of petroleum engineering were relatively small and that they were not perceived as representing a major or critical technology. The result is that today the public funds in support of petroleum engineering lag far behind those in support of other engineering fields.

The amount of separately funded research conducted by the departments of petroleum engineering in the U.S. was estimated by a recent study at between $10.5 and $11.0 million for the 1986-87 year (Report on Department of Energy Grant DE-FG88ER75419). Over a five-year period, federal funds and industry funds were each estimated as contributing about 42% of the total expended by the petroleum engineering departments. By contrast, federal sources contribute about two thirds of the separately budgeted research funds for all engineering fields, as reported by data from the American Society for Engineering Education (Engineering Education, March 1988), with 18% to 20% coming from industrial or private sources.

Separately budgeted research, which is the primary source of support for graduate students, is lower in the petroleum departments than in the average academic program in engineering. Data from the ASEE, published in 1988, give the following measures of the amount of separately budgeted research for the total engineering academic community:

Research expenditure per total doctoral student is $64,053,

Research expenditure per professorial faculty is $94,875; and

Research expenditure per doctoral degree is $453,888.

The petroleum engineering departments were canvassed in 1988 and there were found to be 214 doctoral students, 164 professorial faculty, and 30 doctoral degrees granted. The average engineering level in separately budgeted research for this number of faculty, students, and degrees computes to be between $13.6 and $15.6 million, which is about $4 million less than the actual research level for these programs.

Federal R&D obligations to engineering programs in universities for fiscal year 1987 was recently reported by the NSF (Early Release of Summary Statistics on Academic Science/Engineering Resources) to have been in excess of $986 million. The petroleum engineering programs, which are approximately one percent of all academic engineering programs, might have expected to have received about $9.9 million of these federal funds. Their actual federal funds are estimated to have been less than half that amount.

It is clear that a greater level of public support for research and graduate study in petroleum engineering is warranted. Public funds are recognized as being essential in most academic fields. The primary restraint in the field of petroleum engineering is a perception that the industry should assume this obligation. This is no longer true, if it ever was. The challenges that this nation faces to recover needed petroleum reserves and to maintain a national leadership in the technology are public issues deserving of public funding. The obligation should not be left to the industry.

Support is also needed so the level of graduate enrollment in petroleum engineering can be increased beyond its present size, particularly in the numbers of U.S. citizens who are engaged in the study. One of the benefits of fellowship support is that it can be used to attract U.S. citizens to the field.

By almost any measure, the graduate enrollments in petroleum engineering departments are low in relation to the undergraduate enrollments. One piece of evidence is found by examining the ratio of graduate to undergraduate degrees given by the various engineering fields. Over the five years 1982-86, the ratio ranged from 0.13 to 0.20 for petroleum engineering but was between 0.31 and 0.34 for all of engineering. This comparison would suggest that petroleum engineering graduate enrollments need to be doubled.

Another measure comes from the ASEE data, cited previously, which indicate for 1986-87 that for all engineering, the Ph.D. enrollments per professorial faculty were 1.48, and the Ph.D. degrees per professorial faculty were 0.21. By these parameters, the petroleum engineering departments should be supporting 243 doctoral students, rather than 214, and producing 34 doctoral degrees, instead of 30, an indicated increase of 13%.

In short, a significant increase in graduate enrollment is needed to bring the petroleum engineering departments to a par with the rest of the engineering academic community. Without such an increase the nation will be hard-pressed to meet the challenges that are presented by a waning resource base and more competitive world-wide technology.

A survey made in 1988 showed that U.S. citizens account of 53% of the graduate students enrollment in the petroleum engineering departments. Foreign students come from 48 different countries, 24 of which account for three or more students each. Twenty or more students each are enrolled from the Peoples Republic of China, Turkey, India, and Iran. It is to be hoped that the experience of graduate study in the U.S. petroleum engineering department will always be attractive to foreign students. However, the departments today rely too heavily upon these foreign students to maintain their level of activity.

What needs to be increased is the number of U.S. citizens who are enrolled in graduate work in petroleum engineering. If the number of U.S. graduate students enrolled were to be doubled from the present level of approximately 350, the total size of the graduate programs would be increased only by 53%. This level of increase is not out of line with that needed to bring the emphasis in these graduate programs up to the average for other engineering fields. In order to attract this number of U.S. citizens, it will be necessary to have fellowship support. Students for designation as fellows should be sought from other engineering and science fields as well as from undergraduate programs in petroleum engineering.

It is suggested that the federal agencies should fund programs that will supply the petroleum engineering programs of the universities with 20 new fellowships per year for a five-year period. These fellowships are suggested at a level of $15,000 each so they will be most useful at the doctoral level. This number of fellowships would be roughly 10% of the current doctoral enrollment and would represent an expenditure of $300,000 in year one of the program, $600,000 in year two, and $900,000 in years three through five. Two subsequent years of diminishing support would be necessary to complete the program for a total outlay over several years of $4.5 million.

To compare the order of magnitude of this suggestion with existing programs, it is noted that the above cited NSF report lists $291 million as being obligated to fellowships in science and engineering in FY 87. Separate fellowship funds are not listed for engineering. If engineering programs received fellowship funds in the same proportion as it received all R&D funds and if petroleum engineering received one percent of the engineering amount, the funds for fellowships to petroleum engineering out of the FY 87 total would have been $460,000. At present there are no fellowship funds coming to petroleum engineering departments from any federal source.

Federal programs for fellowships exist in DOE for at least one other critical area, nuclear engineering. Special programs in DOE exist for support of academic research in the critical area of coal technology. In the Department of Interior, a special program exists for support of university programs in critical fields of mining and mineral resources. It seems appropriate and justifiable that a similar support program for petroleum engineering should exist somewhere within the federal-agency structure.

In summary, our nation finds itself at a critical juncture with respect to the development of its petroleum resources and the maintenance of its international leadership in the field of petroleum technology. It is not just the petroleum industry that has a stake in this matter. It is a public issue. It is in the public interest to provide federal funds to increase the level of research being conducted in the academic petroleum engineering programs of the nation and to encourage more U.S. citizens to undertake graduate study in petroleum engineering. As a first step in addressing this important deficiency, it is suggested that there be created a five-year federal support program that will supply 20 new fellowships per year for graduate programs in petroleum engineering. As of the present time, there are no federal fellowship funds in any of the nation's petroleum engineering departments.

STATEMENT OF PAUL BROUGHTON, PRESIDENT, CHILDREN'S HOSPITAL OF MICHIGAN

Mr. Chairman and Members of the Committee: I am Paul Broughton, President of Children's Hospital of Michigan. I am accompanied by Dr. Alan Gruskin, Pediatrician-in-Chief at Children's Hospital of Michigan. We greatly appreciate the opportunity to testify before the committee.

We are here to ask your support for an initiative that will allow the pediatric medical community to utilize a new medical technology originally developed by the Department of Energy. The transfer of this technology will greatly enhance our ability to research and diagnose childhood illnesses and diseases.

Limited Technology Transfer in Pediatrics

For many years the medical community and the federal government have recognized the need to transfer new technologies developed in the National Aeronautics and Space Administration (NASA), Department of Energy, and the Department of Defense from pure research into applied medical technologies.

The Federal government plays an instrumental role in the development of many of these technologies, particularly in the radiology/imaging field. However, the Federal government has focused primarily on adult health care research and development and has neglected pediatric needs. Even though children under the age of 15 make up nearly 25% of the total population of the United States, the application and development of new technologies in the field of child health care is incredibly slow. A search of the medical literature yields no research on the transfer or development of new technologies into the clinical pediatric arena.

The literature does, however, indicate the rate of this technology transfer. A search of all articles related to magnetic resonance imaging (MRI) in the National Library of Medicine's data base on clinical medicine produced 4,768 articles. Only 41 (1 percent) of these articles were related to children. Further, of the 226 "review articles" (studies of more than a single case history) only 11 (5 percent) related to applications in pediatrics. In the data base for articles on computed tomography (CT) - (the "oldest" of the new technologies) - 23 (10 percent) of the 234 articles discussed applications in children. Finally, of the 1,507 articles on positron emission tomography (PET) scanning only 5 (.3 percent) applied to children.

Moreover, in recent years the National Institute of Child Health and Human Development (NICHHD) budget has been fixed at only 6 percent of the total National Institutes of Health (NIH) budget. Furthermore, NICHHD sponsors less than 6 percent of all extramural research projects at NIH.

This disparity in the rate of technology transfer and development and in Federal budget allocations has long been recognized by advocates for child health.

Positron Emission Tomography

One federally-developed medical technology which could successfully be applied to pediatric health care is Positron Emission Tomography (PET). There is no PET-scan machine in the United States solely committed to the diagnosis and research of children's diseases and pediatric conditions. The enormous federal investment in this sophisticated technology has not been equally transferred throughout the medical community because

of the lack of application to a pediatric environment. Although the federal government has funded 24 adult applications of the PET-scan technology, it has not funded one application to children's diseases.

The expanded use of positron emission tomography will dramatically increase the body of knowledge available for the diagnosis and research of specific biochemical functions of the body. Advances in brain research are demonstrating that the earliest and most specific changes occurring as a result of brain diseases are those that disturb the brain's underlying biochemical processes. The changes typically take place before conventional diagnostic techniques can detect physical alterations. PET technology will enable functional study of the in vivo biochemistry of the brain, just as CT-scan and magnetic resonance imaging have improved the study of the body's anatomical structures.

Knowledge concerning the biochemical basis of human disease could aid in developing earlier, more specific, and improved therapies. Because the onset of many diseases occurs in infancy, childhood, and adolescence, the use of PET technology in the field of pediatrics can aid in containing, reversing, and treating disorders before they manifest their devastating results.

A Cost-Shared Demonstration Pediatric PET-Scan Project

We would like to begin the process of transferring PET-Scan technology into a pediatric setting. We propose to establish a Demonstration Pediatric PET-Scan Project at Children's Hospital of Michigan. We have already raised $26 million, which is over 60 percent of the total cost of the project, and we will pay all future operating expenses. We are seeking $8 million in Federal funds for Fiscal Year 1990. In the long run, this investment in children will save money by allowing physicians to treat illnesses early in life when only minor care is required, rather than later in life when long-term, expensive care is necessary.

I wish to thank you for your attention to this matter. I hope that the process of transferring the benefits of this vital technology to children all over this country will begin soon.

Appendix 1

PET-Scan Pediatric Applications

Epilepsy

The onset of epilepsy commonly occurs in infancy and early childhood. PET can be used to isolate the site of seizures, ensuring that surgical considerations (such as whether or not to perform surgery, or the specific site of surgery) can be made with greater accuracy. PET can be used to observe the ways drugs are metabolized and to help determine the efficacy of particular medications.

Schizophrenia

The onset of schizophrenic disorders most often occurs during adoleseence. PET studies of schizophrenics have shown lower metabolic functions in certain areas of the brain, thus providing a better understanding of the pathophysiology of the disorder. These data can assist in the early diagnosis of schizophrenic disorders, the study of the interaction of drugs on the affected portions of the brain and the study of changing metabolic states of the brain as the disorder fluctuates from remission to acute stages.

Brain Tumors

Initial studies of brain tumors suggest that PET can help define their biological nature in terms of type, blood supply, and metabolic characteristics, and can assist in the selection of proper therapeutic intervention.

Stroke

In stroke, which can occur in children, severe brain damage is characterized by diminished cerebral metabolism of oxygen and diminished blood flow. PET can identify the areas of the brain that are damaged by stroke, as well as any areas that take over to correct or compensate for impaired physical and psychological functions.

AIDS

Current medical literature reveals that AIDS has been discovered in infants as young as two months old. The incubation period, from the initial infection in the perinatal period to the onset of progressive encephalopathy (degenerative diseases of the brain), can vary from two months to five years. Specific manifestations of AIDS and AIDS Dementia Complex (ADC) in infants and children are both physical and developmental, and include: abnormal smallness of the head, muscle weakness and paralysis, seizures, lethargy, and a general absence of developmental milestones such as crawling, walking, increased attention span, and language acquisition.

Preliminary research using positron emission tomography in AIDS patients has revealed abnormal glucose levels in those suffering from ADC. Research into other types of neurological disorders has already shown that metabolic changes often occur before physical changes or symptoms of the disorders are apparent; PET can detect these metabolic changes. The importance of early treatment of ADC, perhaps at presymptomatic stages, cannot be overemphasized. This is particularly the case if, as some scientists hold, the drug therapies developed to combat the AIDS virus may not penetrate deeply enough into the brain to halt the body's degeneration.

Other Areas

In addition to the disorders listed here, PET technology will assist in the research and diagnosis of autism, developmental and learning disabilities, Attention Deficit Disorder (ADD), and mental retardation. PET can also be useful in evaluating drug and dietary therapies for a number of different disorders.

STATEMENT OF THE AMERICAN GAS ASSOCIATION

The American Gas Association (A.G.A.) is a national trade association comprised of some 250 natural gas distribution and transmission companies serving over 166 million natural gas consumers throughout the United States. We appreciate this opportunity to present our views on natural gas-related research and development (R&D) conducted or sponsored by the Department of Energy (DOE).

The natural gas industry recommends an appropriation of $13.4 million for FY 1990 for renewable energy R&D falling under jurisdiction of this Subcommittee. This includes $8.4 million for geopressured methane R&D and $5 million for biofuels R&D.

THE IMPORTANCE OF GAS-RELATED RESEARCH

The United States needs an adequately funded DOE research program not only to meet future energy needs, but also to remain competitive in today's world economy. Gas-related research may be the most important component of DOE's research program.

Natural gas energy has an important future role because its attributes favor its use in a myriad of applications. First, gas is the cleanest of all fossil fuels. Natural gas can be used for pollution control by itself and to reduce sulfur and nitrogen oxide emissions of other fossil fuels. Gas can also be used as a vehicular fuel. No other single fossil fuel can be used in as many applications as natural gas without major negative environmental consequences. Indeed, the air pollution problems resulting from the combustion of other fossil fuels has caused many in Congress and the Administration to call for solutions to the ozone nonattainment, acid deposition, and potential global warming problems facing the nation today.

Second, natural gas can be delivered quickly, efficiently and without major environmental impact, through the existing million-mile transmission and distribution system.

Third, natural gas can be converted into usable energy more efficiently and inexpensively than other fossil fuels. The efficiency of current gas utilization technologies ranges from 98 percent for residential heating to 70 percent for industrial cogeneration and 50 percent for combined cycle turbine systems for electric generation.

DOE's role in gas research serves two very important purposes. First, DOE's support of gas supply-related research will ensure the recovery of a larger percentage of the total gas resource base, which is several thousand times larger than the presently recoverable gas resource base. The amount of gas that may be recovered from the total gas resource base is directly contingent upon our ability to develop new tools and techniques to recover this gas at commercially viable prices.

In May 1988, the Department of Energy released a study entitled, "An Assessment of the Natural Gas Resource Base of the United States." This study concluded that, in the lower 48-states, there are 1,059 trillion cubic feet (Tcf) of gas that can be tapped with existing technology. At the 1987 level of nationwide gas consumption, this amount is equivalent to a 62-year supply. While the number is encouraging, and is indeed conservative, if natural gas is to be the cornerstone of the Administration's energy policy, technological breakthroughs will be necessary to increase long-term gas supplies dramatically. Federal funding is necessary to the development of a long-term, high-risk technology base essential to achieve these breakthroughs.

We are pleased that Congress has recognized the importance of gas-related research. Over the past few years, Congress has consistently authorized and appropriated much more funding for natural gas R&D than the Administration has recommended, especially in the areas of unconventional gas recovery, geopressured resources, fuel cells and gas-related conservation programs. By appropriating 20 percent more research and development dollars in FY 1989 than FY 1988 for geopressured resources, Congress has reversed a long-term downward trend in R&D funding. We hope this trend will be continued.

The second purpose of DOE's involvement in gas research is to provide funding for technologies that radically change the manner in which we use natural gas. Significant improvements can be made in the area of energy efficiency. Such improvements are at the cornerstone of many bills introduced in both the 100th and 101st Congresses. For example, further research on electrochemical processes and thermodynamics could improve the process for transforming gas into usable energy, with greater efficiency and no adverse environmental impact. DOE can and must play a central role in gas technology development, in order for the U.S. to reduce its reliance on foreign oil, improve its energy efficiency to enable industry to compete in the global marketplace, and reduce pollution.

To facilitate DOE's role in natural gas energy research, A.G.A. recommends that there should be created within the Department a new Assistant Secretary position, the Assistant Secretary for Natural Gas. This person would coordinate vital departmental natural gas initiatives on both the supply and demand side. Many of the national goals that President Bush seeks can be enhanced by the creation of this position. This new Assistant Secretary for Natural Gas should be empowered to establish a natural gas policy for the nation and to coordinate it with all federal agencies. The new Assistant Secretary could direct all agencies, including independent regulatory agencies such as FERC, to consult with the Secretary/Assistant Secretary before taking any action that could affect the nation's natural gas policy.

SPECIFIC FUNDING RECOMMENDATION

(1) Geopressured Methane ($8.4 Million)

Geopressured methane is found in either a free state or dissolved in water and trapped in sedimentary rock at higher-than-normal pressures. One of the largest geopressured areas underlies a portion of the Texas and Louisiana Gulf Coast. Estimates of the total resource inplace range up to 100,000 Tcf; however, estimates of the amounts of gas that might ultimately be recovered, given current recovery techniques, range between 25 and 1,200 Tcf.

The DOE-sponsored geopressured resource program is truly a high risk, long-term R&D effort. Significant technological challenges must be overcome before commercial-scale production and significant industry investment is feasible. The scientific research effort to date has yielded valuable technical, environmental and economic information about this enormous resource. Continuation of this scientific testing is critical to the eventual large-scale production of geopressured methane. If technological breakthroughs can be achieved, geopressured methane could become a virtually inexhaustible source of domestic energy.

Over the longer term, the research program in geopressured methane will need to be refocused. Current research conducted by DOE in geopressured/geothermal zones is focused on producing both gas and electricity from low-grade heat in the reservior brine. DOE should redirect its research efforts and concentrate more on recovering the vast amount of dissolved methane found in geopressured zones. In addition to DOE's current geopressured program, DOE should develop new approaches that utilize traditional engineering principles to maximize gas production and minimize brine production.

(2) Biofuels ($5 Million)

Since the supply of organic and waste materials is virtually unlimited, supplemental methane supplies from biomass and waste conversion can add significantly to the total future gas supply picture. Finding sites for disposal of waste is an increasing problem in communities across the nation. The New York garbage barge this past year is a graphic example of the enormity of the problem. Therefore, developing energy from biomass would promote the environmental benefit of productive use of currently "useless" materials and would aid in the reduction of the uncontrolled release of methane which is believed to be a "greenhouse" gas. However, the quality of the gas produced and a suitable processing technique are important concerns that inhibit the widespread use of these potential gas resources.

The gas industry fully supports the gas-related biofuels R&D being carried out at the Solar Energy Research Institute (SERI) and recommends strong federal support for continuation of these important activities. Of particular value is the biotechnology process of anaerobic digestion of municipal solid waste which includes genetic and other

improvement of biological organisms and development of innovative reactor design concepts. Continuation of cost sharing by GRI and DOE through the SERI of the Community Waste Project at Walt Disney World, Flordia is encouraged. This project has resulted in the construction and operation of the 1200 gallon digester at the experimental test unit (ETU). Work in the future should be directed to methods to decrease solids residence times, increase solids concentrations, and understanding and controlling biological populations in digesters. This work has the potential to provide technology that can produce methane for less than $3.50/MMBtu.

Another significant area of research at SERI includes methods to remove carbon dioxide from the air or from combustion plant stacks. Novel alternatives are under development either using microalgae or metal catalysts as a scrubbing mechanism to remove carbon dioxide and convert it to fuels such as gasoline or methanol. The basis for using microalgae is that they are the most productive biochemical factories in the world, they consume 7-14 times more carbon dioxide than crop plants per unit land area. Two 1/4 acre size microalgae ponds are already in operation at an outdoor test facility in New Mexico. Carbon dioxide in a processed combustion plant flue gas could be directly injected into pond water, and trapping efficiency is estimated to be at least 50-80% with current technology. The microalgae synthesize oils from the carbon dioxide and other nutrients and these oils can be converted to gasoline for fuel. Metal catalysts work by absorbing carbon dioxide from the atmosphere or from flue gases and through a four step process convert it to methanol. Three of the four steps have received attention and progress has been made. The third step is vital and funds should be made available to undertake work in this area as well as couple all four steps together. This approach has significant promise to aid in the greenhouse problem.

Five million dollars is needed to perform these two gas-related initiatives in FY 1990. We also urge Congress to provide a strong, stable funding level for all biofuels research work at SERI. This research program has experienced drastic funding cuts in recent years.

CONCLUSION

The natural gas industry recognizes that the continuing budget deficit places severe constraints on federal energy research dollars. The funding levels we are recommending for the two gas-related R&D programs that fall under the jurisdiction of the Energy and Water Development Subcommittee are very modest in cost. However, they hold the promise for the development of enormous gas supplies, and the energy security of our nation and environmental goals that necessarily follow.

STATEMENT OF ROBERT L. McCRORY, PROFESSOR AND DIRECTOR, LABORATORY FOR LASER ENERGETICS, UNIVERSITY OF ROCHESTER

Summary

The University of Rochester's Laboratory for Laser Energetics (LLE) has been involved in inertial confinement fusion (ICF) research since the late 1960s, and is the only ICF program jointly supported by the Federal government, State government, industry, utilities, and a university. LLE's work has made substantial scientific contributions to the National ICF program, at relatively small cost to the government, and transfers technology to the private sector through the training of graduate students and interaction with industry.

The Rochester program has the only major laser facility in the United States capable of conducting fully diagnosed, symmetric direct-drive spherical implosion experiments. As such, the facility serves as a National users facility, benefiting scientists throughout the country. The University's participation in the National ICF program underwent merit review by a group of eminent experts in the field under the auspices of the National Academy of Sciences (the Happer Committee) in 1986. The Happer Committee recommended that the OMEGA laser be upgraded in power. To this end, the Congress appropriated $4,000,000 for the preliminary design engineering, development, and related studies for the upgrade of the OMEGA laser spread across FY88 and FY89. Continuity of program and continued scientific progress in direct drive requires that we initiate construction of the upgrade in FY90

The design effort for the OMEGA upgrade will be completed during the current fiscal year and prototype equipment testing is underway. The total design engineering effort will be ready for review by DOE during the current fiscal year. Modifications to the OMEGA system can begin in FY90, with completion of the upgrade by FY92. Current results from the OMEGA laser indicate that the upgraded OMEGA facility will be capable of achieving fusion ignition, *thus establishing, for the first time, the scientific feasibility of inertial fusion in the laboratory*. This demonstration will enable DOE to assess the proposed high-gain Laboratory Microfusion Facility (LMF).

LLE made exceptional progress in 1988–1989, including an invention to create ultrasmooth laser beams. The technique, smoothing by spectral dispersion (SSD), was demonstrated on OMEGA and resulted in improvements greater than 50 in the yield performance of highly compressed inertial fusion targets. The data obtained are in agreement with results obtained from indirect-drive experiments with the NOVA laser at Livermore which used 20 times more laser energy.

Requested Action

At issue are the continued operations funding for the University of Rochester's Laboratory for Laser Energetics at a level of funding consistent with FY89 and funding for the OMEGA laser upgrade program in FY90. Our requested action is for support totaling $26.5 million, which includes $15.3 million for the OMEGA upgrade. This construction/equipment total is the same as that projected in the joint DOE/University of Rochester report to the Congress of March 1988.†

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† The joint DOE/University of Rochester report to the Congress in March 1988 [mandated by the Continuing Resolution for FY88 [Energy and Water Development Appropriations Act, Amendment No. 5, Section 101(d) of Joint Resolution 395 Title III]] stated: *"While the current OMEGA experiments are important in addressing many key ICF issues, a higher-energy direct-drive capability, provided by an upgrade of this laser, would have a role to achieve sufficient thermonuclear yield to address ignition-scaling issues. These experiments could increase the confidence associated with the success of a national high-gain laboratory facility."*

Background

LLE is the only major unclassified ICF facility in the United States. According to the National Academy of Sciences (NAS) Review of the Department of Energy's Inertial Fusion Program published in March 1986, LLE serves as a window to the greater scientific community, as a training ground for students and researchers, and as a user facility [the National Laser Users Facility (NLUF)]. DOE recognizes LLE as the National focal point for direct-drive laser fusion compression experiments.

The near-term objective of the U.S. inertial fusion program is to demonstrate the feasibility of burning small masses of thermonuclear fuel in the laboratory by using lasers or particle beams. Understanding the physics of marginal fuel thermonuclear burn is vital to DOE's Defense Programs. ICF research and experiments contribute to the nuclear weapons program through increased understanding of thermonuclear burn and other weapons-related effects critical to the Nation's nuclear weapons design effort. The long-term objective of the program is to develop fusion as an inexhaustible source of electrical energy for the country.

The production of clean and economically competitive electrical energy by the fusion process has been the ultimate objective of a worldwide scientific research effort for the last four decades. Fusion, the process by which the sun generates energy, involves the nuclear burning of low atomic weight elements to form heavier elements with the subsequent release of energy. With a limited world oil supply, and with present concerns about the use of fossil fuels — acid rain, the "greenhouse" effect, and the large quantities of water required in the coal mining process — the development of large-scale, safe alternative energy sources should be a high National priority. A National goal should be the development of fusion for use in the 21st century. We are now on the threshold of proving the feasibility of inertial fusion after a quarter of a century of investment!

Another important benefit of a fusion reactor is that it could be used as an actinicle burner to transmute fission by-products to benign elements. On an annual basis, a single laser-fusion burner could consume the majority of the high-level wastes generated by more than 100 light water reactors while at the same time producing useful electrical power.

There are two principal approaches to inertial confinement fusion: direct and indirect drive. In the indirect or "hohlraum" approach to fusion, the driver-beam energy is absorbed and converted to x rays by a case made of a high atomic weight element, the x rays are then used to drive the target implosion. In the direct-drive approach, a laser pulse directly illuminates a bare, spherical target. Since no intermediate conversion process is required for the direct-drive approach, it is significantly more energy efficient than the hohlraum approach.

In the late seventies, efficient wavelength conversion techniques were developed and demonstrated at the Laboratory for Laser Energetics and elsewhere. The National Academy report cites LLE for a number of accomplishments, key among them being the *"investigation and demonstration of high efficiency frequency multiplication which now forms the basis of all the world's glass laser programs, and is certainly a major cause of the present upswing in ICF technical results and prospects."*

The development of the required ICF laboratory physics data base depends, to a large extent, on the target implosion experimental programs being carried out on the NOVA laser at LLNL and the OMEGA laser at Rochester. Progress to demonstrate the feasibility of ICF has been rapid since the problem of fast electron generation was overcome with short-wavelength lasers: Experiments on the NOVA laser at Lawrence Livermore National Laboratory demonstrated densities in excess of 20 g/cm^3 (100 times the density of liquid deuterium-tritium fuel) by using indirect or radiation drive with an energy of 20,000 J and at LLE with the OMEGA laser using direct drive with 2,000 J of energy. OMEGA, a 4,000-J (1.054-μm) uniform illumination laser is the principal U.S. facility used to explore the feasibility of the direct-drive approach to ICF. The OMEGA upgrade (designed to produce 30,000 J at 0.35 μm) is designed to produce a thermonuclear plasma in the ignition regime for the first time in a laboratory. These results will provide the basis for a high-confidence decision to proceed with an LMF for the Nation.

The LLE Program in Direct-Drive Laser Fusion

Direct drive offers greater pellet gain at lower incident driver energies than indirect drive if stringent irradiation and hydrodynamic stability constraints can be met. *Direct-drive laser fusion provides a singular opportunity to reduce the minimum energy required to build a high gain ICF facility.* Design calculations indicate that 2 MJ of ultraviolet (0.351 μm) light may produce gains of 100 (200-MJ output). Verification of these results, built on a credible *experimental* data base from the upgrade could result in considerable cost reduction, *potentially several hundred million dollars,* for a major National facility.

While the LLE program is unclassified, many of the fundamental physics issues common to radiation-driven targets investigated on the OMEGA facility include x-ray conversion, x-ray preheat, filamentation, parametric instabilities, and drive uniformity. LLE experiments have demonstrated the significance of irradiation uniformity on x-ray conversion efficiency. Experiments will continue to address these important issues; some of these experiments have been and will continue to be conducted in collaboration with the Los Alamos National Laboratory (LANL) and the Lawrence Livermore National Laboratory (LLNL).

Ultra-high-resolution diagnostic instruments are essential for the conduct of inertial fusion experiments. LLE has some of the best capabilities in diagnostic instrumentation of any inertial fusion laboratory. An array of nuclear, x-ray, light, and particle diagnostic systems are used in experiments at LLE. Many of the diagnostic techniques employed by ICF researchers worldwide were developed at LLE. LLE continues to collaborate with other major laboratories such as LLNL and LANL in the development of diagnostics.

Most recently, we have experimentally demonstrated SSD at full system power on the OMEGA laser. SSD is a fundamental new invention allowing the use of broad bandwidth in frequency-tripled (solid-state) laser systems. With this technique, target illumination is three to four times more uniform than that achieved previously by using distributed phase plates (DPPs) on the OMEGA system. With SSD the stringent uniformity requirements for direct-drive laser fusion can be met. To eliminate the interference structure resulting from segmenting a laser beam into a large number of beamlets, e.g., through the use of DPPs, techniques such as induced spatial incoherence (ISI) developed by NRL have been proposed, but the ISI scheme is basically incompatible with the narrow spectral bandwidth required to achieve high-efficiency tripling in a solid-state glass laser system. SSD uses broad bandwidth, but the spectrum is dispersed spatially in such a manner to allow high-efficiency tripling.

The production of a small region of plasma at ignition temperature and density is the next critical issue in inertial fusion to be addressed. The current configuration of OMEGA has too small an energy to access this key physical regime; however, calculations indicate that a 30,000-J UV laser system will achieve ignition. *This would be the first laboratory demonstration of ignition.* Experiments in the ignition regime will provide an experimental capability not currently available to the ICF program.

While the current OMEGA experiments are important in addressing a number of key ICF issues, a higher-energy direct-drive capability, provided by an upgrade of this laser, is absolutely required to address ignition-scaling issues and many of the physics issues of reactor-size targets. *Such a demonstration will be possible on the upgrade of the OMEGA facility.* Continuity of program and continued scientific progress in direct drive requires that we initiate construction of the upgrade in FY90. Given the higher efficiency of direct drive over indirect drive, a few-megajoule frequency-tripled system is predicted to achieve gains of 100.

In its 1986 report, the NAS recommended delaying an aggressive driver development program until the target physics results justified a change in priorities. The recent Halite/Centurion achievements and the impressive experimental results on NOVA and OMEGA now justify a change in priorities. A 1987 Jason panel review of ICF experimental results also stated that an accelerated program to complete development of the technology to build a suitable inertial fusion driver at an affordable cost is now justified.

Specifically, the OMEGA upgrade will be used to demonstrate the power amplifier components and to develop and demonstrate some of the manufacturing processes necessary to verify the cost estimates for the LMF. By using the compact, modular, multipass amplifier design, a fifteen-fold increase in energy capacity on the OMEGA system can be obtained without a substantial increase in the space requirements to house the laser.

LLE will continue the development of measurement and design techniques for improving the quality of glass drivers and will investigate new and improved methods of producing optical components such as mirrors, polarizing elements, mechanical supports, phase plates, and other systems needed to operate large fusion-laser systems. LLNL and Rochester have agreed to cooperate and provide mutual support for their respective solid-state fusion laser research and development efforts. Solid-state glass laser development is only one facet of LLNL's approach to LMF driver technology. The OMEGA upgrade will serve as a test bed on which the relevant technology for a solid-state-laser National facility may be tested at modest cost to provide future direction for the National ICF program.

LLE operates the NLUF, which provides facility time for qualified researchers from other institutions who are approved for funding by DOE. The University provides student training and education at the Masters and Ph.D. levels as part of the fusion effort, thereby providing the only significant source of trained manpower in an area of National need. The Rochester program is similar to the program at the University of Osaka in Japan. Osaka trains students and is pursuing ICF for energy. Currently, the University of Osaka is planning a 100 kJ upgrade to their GEKKO XII facility. In terms of both National need and U.S. competitiveness, the next step at the University of Rochester — construction and use of the OMEGA upgrade — will continue to keep the U.S. current and competitive.

Funding and Management Issues

Table 1 shows the funding requirements for the period FY90–93 for the upgrade of the OMEGA laser and operations of the enhanced capability facility. The first row of the table is based on the FY89 current program, inflated by 3% for the out-years. The funding profile for the upgrade implementation and equipment costs is shown in the table. The initial estimated requirement for OMEGA construction and equipment is $39,000,000 (in FY88 dollars) or a total of $44,120,000 in as-spent dollars, shown below. All of the current OMEGA hardware ($21,500,000 in as-spent dollars when OMEGA was completed in 1980 which has a current replacement value of nearly $40,000,000) will be used in implementing this upgrade. Use of current OMEGA hardware considerably reduces (by one-half) the cost of construction of a 30,000-J direct-drive facility.

Table 1

Funding Profile for the OMEGA Upgrade

($ in Millions)

Program Element	Required Funding Profile			
	FY90	FY91	FY92	FY93
DOE/LLE-Current Program	11.2	11.6	12.0	12.4
OMEGA Construction/Equipment	15.3	18.2	10.6	—
OMEGA Enhanced Operations	—	1.7	2.5	2.6
Total UR/LLE Funding	26.5	31.5	25.1	15.0

The engineering design effort for the OMEGA upgrade will be completed this year, including prototype equipment testing. The total design engineering will be ready for DOE review this fiscal year. Full implementation of the OMEGA upgrade should begin in FY90 with completion by FY92. Ignition-scaling experiments and hydrodynamic stability experiments for targets that are hydrodynamically equivalent to high-gain, direct-drive designs could begin during FY92.

STATEMENT OF DAVID P. HOFFMAN, VICE PRESIDENT OF NUCLEAR OPERATIONS, CONSUMERS POWER CO.

Mr. Chairman and Members of the Subcommittee, my name is David P. Hoffman and I am Vice President of Nuclear Operations for the Consumers Power Company. My statement is on behalf of Gas-Cooled Reactor Associates (GCRA), the utility organization that supports the development and commercialization of the Modular High Temperature Gas-Cooled Reactor (MHTGR). Consumers Power has recently joined the GCRA Membership ranks and I am pleased to represent this overall utility support for the MHTGR Program to your Subcommittee.

Such utility support is based on the growing recognition of the need for a new generation of nuclear reactors to help meet future electricity demand without the undue environmental problems associated with the otherwise over-reliance on fossil fuels. In particular, the MHTGR offers quantum improvements in nuclear power technology that build very compatibly on the evolutionary improvements underway for the nearer-term Advanced LWRs. Such quantum improvements derive from the inherent material properties associated with ceramic coated fuel particles, graphite core structure and helium coolant. The adaptation of these inherent properties with design-specific features of low power density, low power rating and an annular core configuration collectively assure a passive, self limiting response for the full range of accidents considered for public health and safety protection. These characteristics result in enhanced safety margins without reliance on AC-powered safeguard systems and/or operator actions that are sufficient to establish the technical basis for fulfilling the GCRA requirements of eliminating the need for offsite public evacuation and sheltering plans. As a result, the MHTGR should provide eased siting and licensing plus improved overall public acceptance. Other attendant benefits of the passive safety features include improved investment protection, simplified operation and maintenance activities plus improved reliability and availability.

The capability of adding small power increments, as low as 135 MWe, provides flexibility in meeting uncertain load growths plus improvements in the utility's overall system reliability. The modular nature of the design approach increases the extent of shop fabrication, which enhances standardization, quality assurance, learning, cost/schedule certainty and overall cost competitiveness. Further, the MHTGR is based on a low enriched uranium, once-through fuel cycle that does not raise nuclear

proliferation issues. These overall features make the MHTGR well suited for the evolving business and regulatory environment within the U.S. and hence heighten the commercial prospects and payoff of the National investment in this technology. Further, the MHTGR is ideally suited for the export market, particularly the rapidly growing developing countries.

The MHTGR utilizes components and systems that have been proven in comparable applications. As a result, relatively modest resource demands are required to complete the design, licensing and technology development and verification effort required for Lead Plant deployment, design certification and commercialization.

Our goal has been to complete the deployment of a Lead Plant by the turn of century such that the MHTGR will be an available option for expected generation capacity expansions and the replacement for retiring capacity. In order to meet this goal, a significant increase is necessary in the ongoing level of effort within the MHTGR Program, which is currently funded at approximately $20 million from DOE plus $4-5 million of private sector support, primarily through GCRA and the prospective vendor participants. As you know, for FY 1990, DOE has proposed $15 million for the MHTGR Program. While this is a 100% increase over last year's proposed funding by DOE, we respectfully recommend a funding level in the range of $35 million. In our view, the MHTGR Program needs and deserves this level of DOE funding in FY 1990 to establish balanced technical resources for the design, licensing and technology development programs.

Key programmatic tasks to be supported by the proposed level of funding include: (1) increasing the pace of the ongoing preliminary design with particular emphasis on addressing resource deficient areas such as the reactor cavity cooling system, the plant control system, plant-level systems engineering and overall cost estimate development; (2) advancing the Preliminary Standard Safety Analysis Report (PSSAR) on a schedule for submittal to the NRC in 1991 versus two years later if DOE's proposed funding level is sustained; (3) undertaking the much deferred technology development programs that must provide the validation of many of the design and licensing predictions. In particular, the fuel process development and qualification programs, the core physics validation program, the reactor cavity cooling system validation program and magnetic bearing circulator testing programs await adequate funding; (4) all together, fostering private sector support for a Lead Project initiative that will add greater focus and purpose for the design, licensing and technology development programs.

In parallel to the civilian MHTGR Program, DOE has recommended that a four reactor MHTGR plant be deployed as a half-size New Production Reactor at the Idaho National Engineering Laboratory. The initial schedule projects startup of the initial module by 1998. The proposed budget for the MHTGR-NPR in FY 1990 is approximately $89 million which will cover ongoing target development work plus initiate design and technology development work specific to the MHTGR-NPR application. This proposed funding level highlights the subcritical resources being applied to the civilian MHTGR Program.

Recognizing the current funding uncertainties for the MHTGR-NPR Project, it is crucial that an aggressive civilian MHTGR Program be supported in FY 1990. In case Congress forecloses the MHTGR-NPR application this year, the civilian MHTGR Program must be capable of proceeding on a stand-alone basis. In case Congress defers the MHTGR-NPR construction commitment, an aggressive civilian MHTGR Program in FY 1990 is still needed and will actually serve to advance the technical basis for such a NPR commitment. In case Congress commits to the MHTGR-NPR construction this year, an aggressive civilian Program is warranted to establish a balanced cooperative effort such that the civilian benefits from the MHTGR-NPR Project are realized.

GCRA has maintained support for the MHTGR-NPR application based on the prospects of stabilizing aggressive Government support for the front-end development and first-of-a-kind deployment costs. With a high degree of design and infrastructure commonality, a large fraction of this effort would be applicable to the civilian MHTGR Program. Crucial to realizing these benefits is the establishment of an aggressive civilian MHTGR Program and Lead Project that is closely coordinated with the MHTGR-NPR Project.

Independent of any NPR application, Congressional legislation is needed to establish a stable Government framework and funding commitment for completing the development, demonstration (if required) and certification of qualifying advanced reactors. Toward this end, several initiatives have been introduced and are under development.

In our view, such legislation would commit the very modest Government funding planned for the Advanced LWR Program on a 50/50 cost sharing basis with private sector sponsors. This Program is oriented toward design and early certification of several Advanced LWRs that apply evolutionary

improvements to existing LWRs. Consistent with the long-standing position of the Advanced LWR Program, Government support is not required for the construction of any Advanced LWR Lead Plant.

For the MHTGR, a cost shared Lead Project is required to demonstrate the unique licensing aspects and support subsequent certification plus verify the performance, cost and vendor capability that is required for successful commercialization. Major Government funding support for the ongoing front-end design, licensing and technology development programs should continue until a Preliminary Design Approval and/or Construction Permit for the Lead Plant is obtained from the NRC. Subsequently, a consistent 50/50 cost sharing arrangement would apply on all future costs to build the Lead Plant and establish design certification. A Government cap on the cost sharing would be based on half of the cost estimate established at the issuance of the Preliminary Design Approval and/or Construction Permit.

Aspects of overall qualifying criteria, risk sharing and Project management also need to be addressed in the legislation. In addition, such legislation could encompass regulatory reform which is vitally needed for all future reactors. The key aspect of such reform would deal with the implementation of a one-step licensing process for certified advanced reactors. Such legislation will be most important in engendering private sector participation and investment in advanced reactor deployment activities.

With that prospect in view, Consumers Power Company is undertaking a MHTGR Lead Project Feasibility Study during 1989 centered around the use of utility personnel to operate the plant plus the consideration of several ownership arrangements, power use options and siting locations.

Consumers Power Company has a broad background with nuclear power to bring to the MHTGR Program. Our Big Rock Point plant, that we have been operating successfully for 28 years, is one of the early BWR plants built by GE. Our Palisades plant, that we have been operating for 18 years, was the first PWR plant sold by Combustion Engineering. We have recently completed a third party ownership arrangement for this plant which may serve as a worthy model for future nuclear plants, such as the MHTGR. Our Midland plant has been successfully converted from a nuclear cogeneration plant to a gas-fired cogeneration plant. We feel that this range of experience will be most valuable to the ongoing efforts within the MHTGR Program to establish a Lead Project.

Mr. Chairman, you and this Subcommittee deserve much credit for your steadfast support of the MHTGR Program. We respectfully urge your continued support and careful consideration of our recommendations to advance the MHTGR toward a near-term Lead Project.

STATEMENT OF THE NUCLEAR POWER BUSINESSES COMBUSTION ENGINEERING, INC.

As you have requested, I would like to take the opportunity to provide testimony to this Committee as it considers the Department of Energy (DOE) budget for Fiscal Year 1990. I am Shelby T. Brewer, President, Nuclear Power Businesses, Combustion Engineering, Inc.

Combustion Engineering, Inc., a Fortune 500 company, is a major supplier of systems and services to the electrical power, chemical, petroleum, industrial, and process automation and control sectors. We serve markets here in the U.S. and around the world.

I would like to comment on the importance of completing the DOE Advanced Light Water Reactor (ALWR) Design Certification Program in a viable manner that responds to new Nuclear Regulatory Commission requirements for certification of standardized designs. The budget level which we are proposing ($3.5 million above the DOE request for FY90) leaves the total
DOE funding for ALWR Design Certification Programs at $5.9 million, still a decrease from the current fiscal year.

<u>The ALWR Design Certification Project -- An Institutional Demonstration</u>

Of all the meritorious reactor programs sponsored by the DOE, I regard the ALWR Design Certification Program as the top priority, because it goes to the heart of the institutional barriers to further deployment of nuclear power in the U.S. The program is not a technology development program, and its cost is, therefore, minor compared to other DOE programs. It is not a plant demonstration project aimed at demonstrating a new technology. It is, rather, an institutional demonstration aimed at demonstrating a rationalized, streamlined regulatory process -- a process that can better protect human health and safety, as well as restore confidence in nuclear power as a viable economic option among the utilities and their investors.

Unlike many programs, which have a life of their own, the ALWR Design Certification Program has an end point -- a deliverable at an established point in time, provided that the program is appropriately funded over the next three fiscal years. When completed in 1992, the ALWR Design Certification program will result in an NRC determination -- in writing -- of the resolution of generic "Unresolved

Safety Issues," and a demonstration of a licensing process which allows prelicensing of standardized designs. Utility executives have repeatedly stated that such steps are necessary as minimum requirements for them to again consider nulear power as a fiscal risk-worthy energy option in today's political environment. Thus, the ALWR Design Certification Program, or an equivalent which reaches the same result, is a prerequisite for a nuclear renaissance in the U.S.

Mr. Chairman, the Certification Program is necessary to pave the way for NRC licensing of the other advanced reactor technologies by demonstrating the new process for prelicensing of standardized designs -- a process that is just now being established by NRC. If the Certification Program is not fully completed, DOE and industry will incur considerably greater costs and schedule delays in attempting to license the other advanced reactor designs in the future.

The Need for Design Standardization and Regulatory Reform

If I could establish a national nuclear agenda for the next several years, it would address two factors -- standardization and regulatory reform. Standardization of both the product and the associated licensing/regulatory process are prerequisites for further consideration of nuclear power as an option for new capacity. Utilities and their investors will simply not absorb the financial risks, as they once did, of an uncertain and often capricious regulatory process, nor will they accept one-of-a-kind products, much less first-of-a-kind products. The threshold for marketplace acceptance is the availability of prelicensed standardized designs (in detail), together with some form of one-step licensing (e.g., combined construction and operating license). These conditions prevail whether the plant is an LWR, an ALWR, a "passive" LWR, an MHTGR, or an LMR.

These views were expressed to Congress last year by James O'Connor, Chairman and CEO of the Commonwealth Edison Company, and William Lee, Chairman and CEO of Duke Power Company. These gentlemen represent the largest and most successful nuclear utilities in the nation. Their advice should not be disregarded.

During my service in the Reagan Administration, Standardization and Regulatory Reform legislation was proposed to Congress (1983). That legislation, and many variants of it, have been extensively debated in the several House and Senate Committees with oversight responsibilities.

The Nuclear Regulatory Commission (NRC), in the meantime, has taken several steps toward rationalizing the process along the lines proposed in the Reagan bill. For example, a Backfit Rule has been enacted. An NRC regulation (10CFR52) on standardization -- review and certification of standardized designs -- has just been approved by the Commission. These NRC initiatives may or may not supplant the desirability of legislated regulatory reform -- that remains to be seen.

In any event, DOE's ALWR Standardized Design Certification project complements these initiatives, legislative or administrative, to reform the regulatory process. I will say it again: the Certification project is an institutional demonstration, not a technological development/ demonstration. Using existing commercial designs, produced at Combustion Engineering's and General Electric's expense, it provides a vehicle for resolving generic "unresolved safety issues" industrywide, independent of reactor concept -- independent of choice of coolant, neutron physics, fuel cycle class, and specific design variants. Further, the Certification project will demonstrate the viability of a process that allows prelicensing of standardized designs, of whatever technology.

Advanced Reactor Programs

Development of advanced nuclear systems, beyond the horizon of the private sector, is a responsibility vested in the Federal Government by the Atomic Energy Act of 1954, as amended, along with several crucial operational responsibilities such as safety regulation, nuclear waste disposition, and uranium enrichment.

With the pacing down of the breeder program after 1983, the DOE and industry considered a broad spectrum of other developmental programs and in time these were reduced to: MHTGR, "passive" LWR, and LMR. In all of these cases, the attributes sought were enhanced operability, financial risk abatement, modularity, and a reduction of requirements for engineered, active safety systems, as opposed to fuel resource conservation, the central driver in the LMFBR program.

Development of these options is in the national interest, and is endorsed by the industry and the nuclear utilities. Combustion Engineering is involved in the development of the MHTGR and is working with British authorities in responding to the DOE RFP on the "passive" LWR.

Modular High Temperature Gas Reactor (MHTGR)

The MHTGR offers a large number of conceptual advantages including a benign coolant, a large thermal "sink", higher thermal efficiency than currently operating plants, modularity which permits factory fabrication, smaller capacity to match utility load growth increments, one phase coolant, fission product retention, simplicity and ease of operability.

Combustion Engineering, General Atomics, Stone & Webster, and Burns and Roe have teamed to offer the DOE Defense Production organization an MHTGR as a New Production Reactor (NPR). The recent selection by DOE of the MHTGR, as one of two technologies to be used in the NPR projects, is heartening.

Safe Integral Reactor (SIR)

In reference to the Department of Energy's Simplified Passive Advanced Light Water Reactor Plant Program (SPALWR) Combustion Engineering, as prime contractor, is proposing a

design for the 640 MWe SPALWR comprising two 320 MWe SIR modules supplying steam to a single 640 MWe turbine generator. Our subcontractors are Rolls-Royce and Associates and the Atomic Energy Authority in the U.K. and Stone & Webster in the U.S. The U.K. Atomic Energy Authority has expressed interest in hosting construction of SIR Unit No. 1 at its Winfrith, Dorset site.

Summary

To summarize, standardization and regulatory reform are prerequisites to further deployment of nuclear power in the U.S. Legislation addressing standardization and regulatory reform is the top priority of the nuclear industry. While this legislation is being considered by Congress, the NRC is taking steps to rationalize and improve the licensing and regulatory processes, including the preparation of a regulation governing standardization (10CFR52).

DOE's Standardized Design Certification project complements these efforts by providing a demonstration of the viability of a process which allows prelicensing of standardized designs. This project is an institutional, rather than a technological, demonstration, and its cost is therefore minor compared to other DOE programs. Because this project goes to the heart of institutional barriers to further deployment of nuclear power, is a minor cost item, and enjoys 50 percent cost-sharing by its contractors, it should, in my opinion, receive top priority in your deliberations.

The appropriation level which we are proposing ($3.5 million above the DOE request for FY90) leaves the total DOE funding at $5.9 million, still a decrease from the current fiscal year. This important funding level will allow C-E to successfully complete this vital certification process.

Because of the world's vast experience in light water cooled reactor technology, a modular LWR approach should be pursued now. The DOE's Simplified Passive Advanced LWR program, now in a formative stage, will address this concept.

The DOE is considering an array of advanced reactor technology development programs. Among these, the Modular High Temperature Gas Reactor (MHTGR) deserves particular emphasis as a candidate for the next generation of nuclear plants.

STATEMENT OF SCOTT SKLAR, EXECUTIVE DIRECTOR, SOLAR ENERGY INDUSTRIES ASSOCIATION

INTRODUCTION

The United States is facing a crises that may very well determine our place as a world economic power in the 1990's. Although we possess great technical creativity, we seem unable to commercialize our discoveries in the marketplace and as a result, we have seen our international competitors commercialize our creations and reap the billions of dollars and millions of jobs from these endeavors.

The American people are about to witness a replay of this sorry state of affairs in our handling of the federal solar research and development programs. Virtually every industrialized country has increased their federal R&D in solar energy technology. The German and Japanese governments surpassed U.S. photovoltaics R&D for the first time in 1988. The Spanish and Swedish governments surpassed U.S. solar thermal power R&D also in 1988. The Danish and Swiss governments surpassed U.S. solar buildings R&D in 1989.

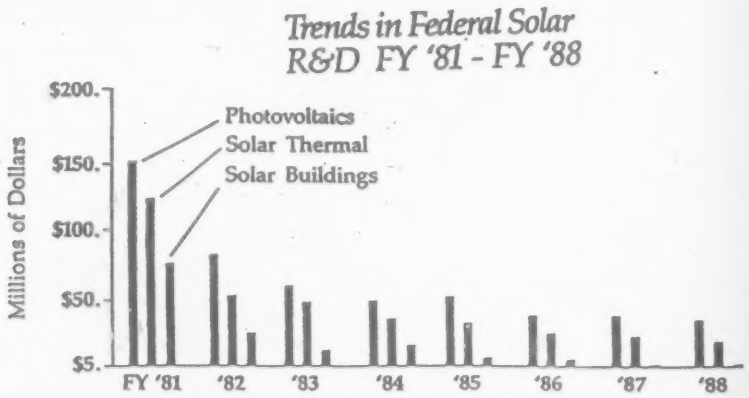
The new Administration has requested a 30 percent cut for photovoltaics research from $35.5 million in FY'89 to $25.0 million in FY'90, which has already been cut yearly from $155.0 million since FY'81. The Administration also has proposed cuts of 15 percent for solar thermal power research from $15 million in FY'89 to $13 million in FY'90 which has been cut yearly from $121 million since FY'81. The Administration has recommended a 20 percent cut in the solar buildings research program from $5.4 million in FY'89 to $4.2 million in FY'90 which has been cut yearly from $77 million since FY'81.

Why in the face of increased international competition and major concerns about global climate change is the United States essentially closing down its federal solar research programs? Why have the solar programs sustained far greater cuts than other federal energy research & development programs? Why would the United States slash research programs at a time when these technologies are becoming cost-competitive in the marketplace?

The years of 1989/1990 will determine whether the United States will have a domestic solar energy industry or relinquish its technological leadership to our international competitors. Our country faces the real possibility of importing solar technologies in the years when they become fully cost-competitive. From my point-of-view, the United States lacks an effective energy policy and has biased priorities against maintaining our

technical predominance and development of solar and renewable energy technologies. This bias is exemplified by the Administration's request to cut the $352 civilian nuclear energy research budget by only $2 million in FY'90 in contrast to their request to cut the aggregated solar budgets of $56.9 million by $13.2 million.

At some point, the U.S. Congress must come to terms as to whether you want to maintain a United States solar energy research effort. The U.S. Congress must also come to terms that at some level, lower solar budgets will not be effective in furthering the technology. The Solar Energy Industries Association, the national trade organization of the photovoltaic and solar thermal manufacturers & component suppliers, believes that the FY'89 funding levels are that bottom line. Therefore, the U.S. solar energy industry asks this Committee to hold the line, maintain an effective U.S. solar energy effort, and come to grips with the reality that if the United States does not push the technology out of the research pipeline, our international competitors will, and the United States will be totally reliant on our competitors for solar technologies for generations to come. Congressional actions in these two years will determine the outcome since the Administration has shown a "business as usual" approach.



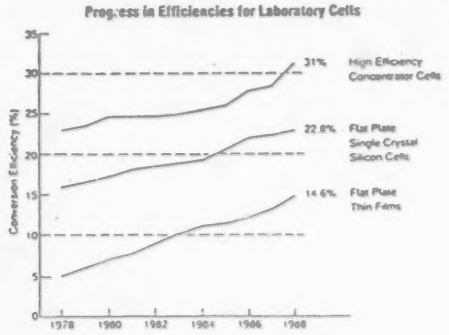
PHOTOVOLTAICS

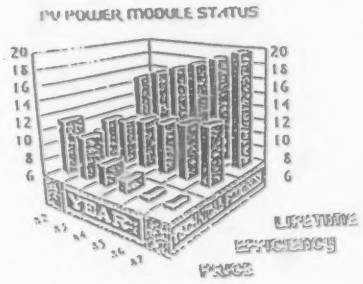
The United States photovoltaics program has three basic thrusts: Bring down the costs of the technology through increased efficiency through the development of new materials and processes in manufacturing photovoltaic cells; Assist the industry in cost-shared research to commercialize research developments; and provide design assistance & review for large-scale photovoltaic systems for export, and government & utility procurement.

As you can see in the addenda, the photovoltiacs program has made great strides with over twenty world efficiency records of photovoltaic cells and modules. The chart below summarizes the cost reductions and the increases

in lifetime & efficiency over the last six years as a result of the research program. The United States has maintained our technological lead worldwide due directly these research efforts. However, while the U.S. photovoltaic marketshare has been maintained through level funding during the FY'88-89 years, the precipitous cuts recommended by the White House (30%) will undercut the U.S. industry so badly that it is very unlikely the industry would ever recover. I cannot emphasize enough to this Subcommittee, that whatever the Congress decides has profound effect on the private investment markets. When Congress maintained level photovoltaic research monies in FY'89, increased private capital flowed to our industry. If Congress cuts this small research program, the private markets will sense that the United States government lacks the resolve to commercialize photovoltaic technology, and disinvestment will occur. Program cuts will insure that the United States will lose both our technological and market leads to both Germany and Japan.

The U.S. Department of Energy Photovoltaic Program has been effectively managed, and has developed an excellent relationship with the private sector. The national laboratory and university efforts are effectively integrated into the research program. This R&D program is a model on how best to commercialize high-technology. Funding for FY'90 should be increased to $40 million or at least maintained at the current $35.5 million level.





SOLAR BUILDINGS

The U.S. Department of Energy Solar Buildings Program is the smallest of the research and development programs and has been essentially at a closedown level of $5.4 million over the last few years. While buildings consume nearly 35 percent of U.S. energy and produce more greenhouse gases than the U.S. utility sector, this energy research area receives the least support. While the United States sits idly by, our international competitors in Scandanavia and Japan have geared up to commercialize energy efficiency technologies which have already begun to enter the United States market.

The solar building research effort has centered on three basic research areas: Solar cooling research using desiccant cooling technologies and new polymers in desiccants which can absorb up to 2000 percent of their own weight, efficiently dehumidify air thus providing cost-effective space cooling. The result of this research will save consumers millions of dollars for space cooling as well as saving utilities from building costly power plants to meet daytime cooling demands.

The second research area focusses on both passive and active solar design assistance. The Solar Energy Research Institute has worked with industry to develop a computerized energy simulation program for seven building types in two climate zones. This computer program will help builders select cost-effective passive solar applications in our nation's buildings. Under US/DOE auspices, SEIA and ASHRAE have developed a commercial-scale solar water heating design manual based on our experience over a decade with solar systems on federal and commercial buildings. In 1989, SEIA/DOE will develop and publish companion installation and operations/maintainance manuals for these large-scale systems. The final program thrust involves research on electrochromic or "smart" windows. By deposing an transparant metal-oxide material on glass, cooling costs for both buildings and automobiles may be significantly lowered. This technology along with photochromic glass has useful potential in the active solar industry in making collector glazings more efficient.

The potential markets for energy efficient technologies are extraordinary. But again, if the United States does not have the interest to commercialize these technologies, our competitors will. Does the United States have the resolve to follow-through on its research? Only the U.S. Congress can answer this question.

SOLAR THERMAL POWER

The United States now has 200 megawatts of completely private sector financed solar-steam-to-electricity utility-grade power plants. The solar trough concentrators used derive directly from US/DOE-sponsored research. This glass technology will soon be superceded by US/DOE developed stretched membrane technology utilizing a silver-coated polymer. The polymers will reduce the cost of this technology even further. Utilities are utilizing solar thermal technology for peak-power applications because they produce the most power during the utility's greatest demand for electricity (noontime), and they have minimal regulatory obstacles due to their cleanliness (no polluting emissions) and surety of supply (sunlight) that they can be constructed within fifteen months.

The U.S. Department of Energy Solar Thermal Power Program has three major program thrusts. First, the program will finish the upgrading of stretched membrane dishes and heliostats to efficiently concentrate sunlight. Actual trial tests are necessary to assess research progress and permit fine tuning. Secondly, second generation work to develop working solar dish concentrators which focus sunlight on engines that are capable of running electric generators, is being pursued through industry joint ventures. Finally, technology spin-offs to power lasers and detoxify wastes will be aggresively pursued as a new cost-effective high value market for these technologies.

The solar thermal technologies are also being commercialized by our industrial competitors. The European Consortium, Phoebus, plans to build a 30 megawatt solar central receiver tower in Jordon using stretched membrane heliostats. Such a venture by European governments may thrust European industries as the major commercializers worldwide of this technology.

The Solar Thermal Power Program should be funded at the $20 million level in FY'90 to remain competitive. A minimum of $17.5 million is necessary just to maintain ongoing programs. Cuts to $13 million as proposed by the Administration would effectively cut out the U.S. industry from federal research efforts and just support limited laboratory work that may never be commercialized. Price breakthroughs, so far, have been very promising as shown in the charts in the addenda taken from the August 1988 Report to Congress titled, "Bringing Solar Thermal Technology to the Marketplace". Solar thermal power technologies have shown that they are competitive in the peak power utility markets today. New advances in technology will make them even more competitive. The world markets offer a virtually unlimited opportunity to successfully commercialize these technologies. Solar thermal power offers a competitive way not only to produce electric power but detoxify hazardous wastes, accomplished successfully by Sandia National Laboratories in 1988. Successfull experiments by the Solar Energy Research Institute in 1988 which concentrated sunlight 60,000 times, enough to power lasers, is a breakthrough important to pursue.

The Solar Thermal Power Program has an effective working relationship between the primary national laboratories, the Solar Energy Research Institute (SERI), Sandia National Laboratories, and the U.S. solar thermal industry. The research program deserves higher consideration by the Congress as an important element of federal research.

INTERNATIONAL

The international line item of the U.S. Department of Energy supports multiagency activities mandated under

P.L. 97-370 which created the federal interagency board, The Committee on Renewable Energy Commerce and Trade (CORECT) to coordinate federal efforts to promote solar & renewable energy exports. This small $1 million program leverages more money than any renewable energy program in the U.S. Department of Energy Conservation & Renewable Energy program.

Aside from a series of trade missions and education materials, the program is supporting a conference and trade show in May 1989 to promote U.S. renewable energy technology & services in the Caribbean Basin & Latin America. The program coordinated by the U.S. renewable energy trade association umbrella group, the U.S. Export Council for Renewable Energy (US/ECRE), is the first of a series of market sector promotion program geared to meet increasing international competition from our international competitors.

The $1 million program should be increased to $2.5 million rather than cut to $0.5 million as recommended by the Administration. For the last eight years, the United States renewable energy effort was focussed, wrongly, on long-term, high risk, research & development. This small program is the only short term government effort to meet our competition head-on. The international program ought to be preserved and enhanced.

CONCLUSION

The United States has reached a time of reckoning regarding whether our nation is committed to realize its federal R&D investment over the last fifteen years, or relinqish our technological lead and the potential multibillion world markets for solar energy technologies. At minimum, the United States must restore $13.5 million worth of recommended cuts for FY'90 and at best add another $10.5 million more dollars to effectively bring these technologies effectively to the marketplace.

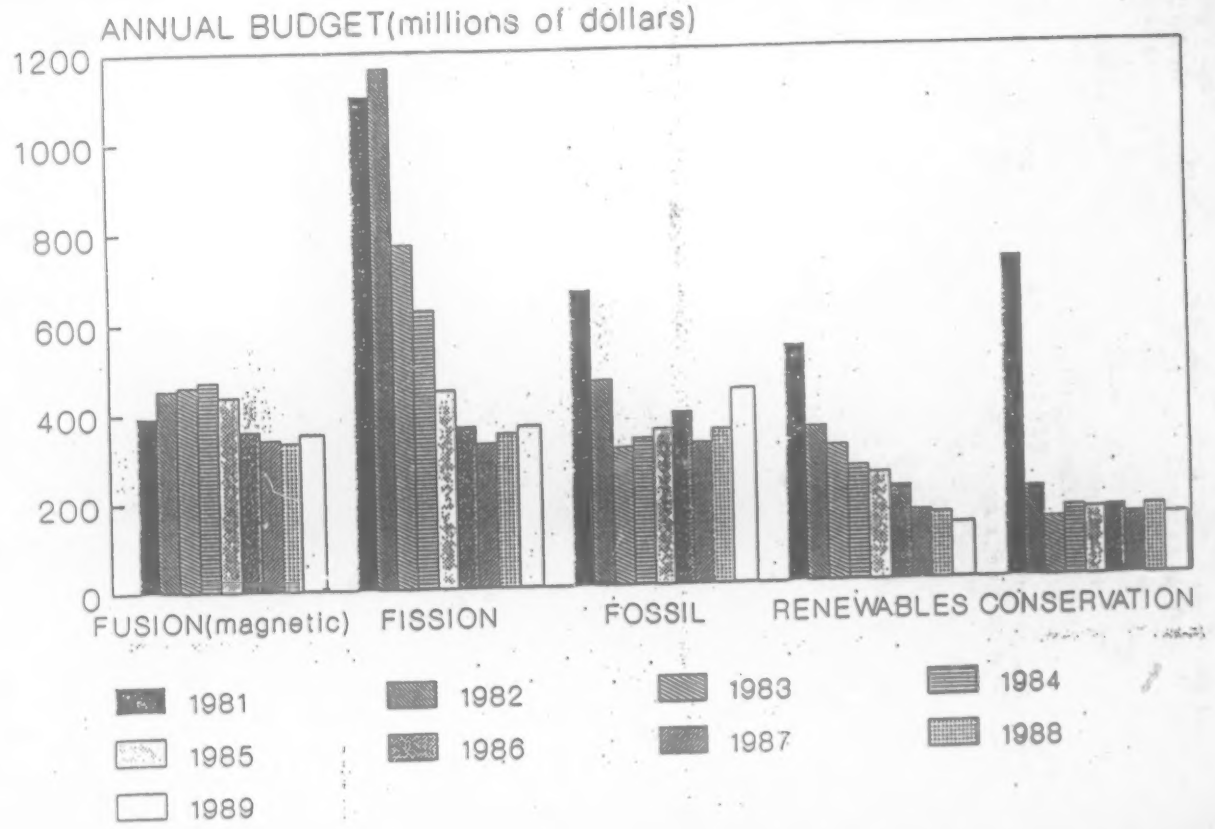
Obviously, budgets are tight but the $24 million needed to effectively bring these technologies to the marketplace and maintain the United States' technological lead, can easily be pulled from ongoing U.S. Department of Energy civilian R&D programs.

In the photovoltaics program, every goal on price and efficiency has been met by the research program. In the solar thermal power program, exciting new breakthroughs on cost, toxic waste breakdown, and laser powering add increasing value to this unique program. The solar buildings program has yielded important tools for the building community to utilize passive and active solar technologies as well as high-technology window & desciccant applications. Finally, the international

program offers the best "bang for the buck" in building international markets for U.S. technology and services.

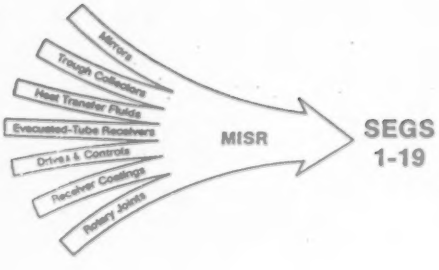
Hopefully, the Congress will re-evaluate policies and funding of the solar research & development programs, and will seek to maintain the United States lead in this technology. Other initiatives to promote government/ industry joint ventures, enhanced federal government procurement and export promotion would also be very welcome.

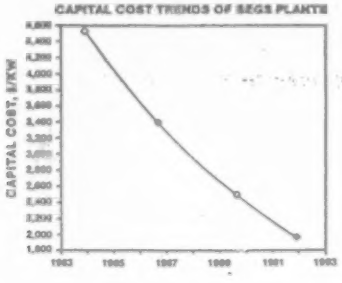
ANNUAL APPROPRIATIONS OF DOE CIVILIAN R&D PROGRAMS (current dollars)



As illustrated below, innovations in materials and components for parabolic troughs were integrated into and proven by the DOE Modular Industrial Solar Retrofit (MISR) systems. These enabling technologies encouraged Luz to employ these component improvements in its commercial systems. As innovations were incorporated into successive commercial systems, each new generation reflected lower system capital costs and lower energy production costs as illustrated. Luz is now considering further reductions in cost by replacing hybrid solar/gas steam generators with storage systems currently under development by DOE. Specific feedback of this kind is incorporated into the DOE research and development program and strengthens industry's ability to continue deployment of systems in broader applications with increased user confidence.

Commercial Solar Thermal Systems

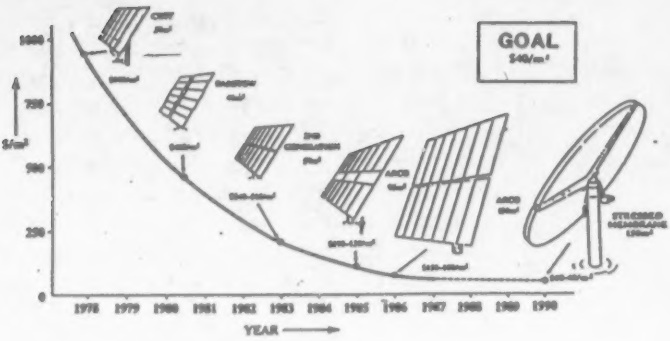




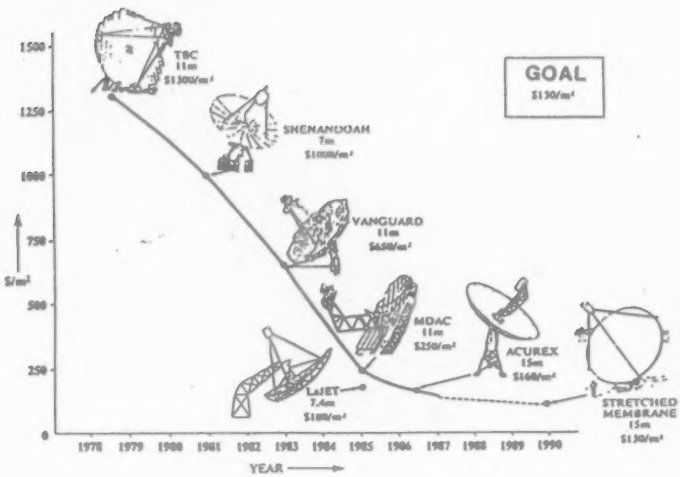
Such processes, in the longer term, also allow solar thermal systems to enter advanced applications such as hazardous waste destruction, materials processing and fuels and chemicals processing. While prototype solar thermal systems have not been tested in these applications, industrial manufacturers of concentrators have begun to see how the low-cost membrane dish concentrators and central receiver technology can directly be used to conduct chemical reactions in a receiver/reactor. Laboratory data have encouraged industry to begin to develop plans and assess the market potential for integrating solar thermal systems into these emerging applications which have national importance.

Receivers for solar thermal systems have also evolved during the past decade. Initially small-scale field experiments were needed to investigate the feasibility of using tube receivers to produce steam. In the early 1980s a scaled-up water/steam receiver was deployed in the 10-megawatt Solar One Pilot Plant, a systems experiment developed by DOE in conjunction with Southern California Edison Utility Company. Today's R&D efforts are aimed at further reducing receiver costs through the use of advanced designs and molten salts as the heat transfer fluid.

Progress In Heliostat R&D



Progress In Dish Collector R&D



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STATEMENT OF PATRICK B. LONG, CHAIRMAN, KMS FUSION, INC.

The Inertial Confinement Fusion (ICF) program has made solid progress in the past year. Confidence in the ICF approach to fusion energy is higher than at any time in the program's recent history. In order to continue this record of accomplishment, KMS believes that the Department of Energy (DOE) must focus its resources and avoid unwarranted duplication and redundant activities. The Fiscal Year 1990 Administration budget proposal of $160.2 million for operating funds and $8.74 million for capital funds should be modified to concentrate scarce resources on the ICF program's major tasks: driver development, physics experiments, target development and diagnostic instrumentation.

KMS Fusion, Inc. ("KMS") has accepted the challenge of focusing most of its efforts on target development and fabrication in support of the entire ICF program. There is enormous leverage, both scientific and economic, in developing better, more efficient targets. Better targets will result in reduced demands on driver technology, thereby enhancing the potential of a given driver to accomplish its mission and lowering the costs of developing and building a new generation of drivers. Thus, investing in target development now presents a major opportunity for a very large future economic return.

Status of the ICF Program

The ICF program has made tremendous strides in understanding the physics of inertial fusion. Most of the major goals set for ICF by the Happer Committee are being addressed successfully or have been met. The Nova facility at LLNL has successfully addressed several key issues related to classified, radiation-driven targets. These issues include uniformity of illumination and the production of stable, high convergence capsule implosions. The classified Halite/Centurion program has given high confidence for the feasibility of inertial fusion target physics and target design.

KMS has contributed to the success in ICF with significant developments in many different technologies:

- o "Beta heating" for the formation of uniform cryogenic fuel layers.

- o Diagnostic x-ray backlighter techniques and instrumentation capable of time resolving imploding targets

- o Development and fabrication of complex fuel capsules

These accomplishments are the result of a great deal of collaborative effort between KMS and other program participants.

Driver development activities are beginning to yield results at both LANL and SNL. The Aurora KrF laser development project at LANL has demonstrated production and control of the multiple laser beams required for efficient operation. Impressive results have also been achieved on PBFA-II, the light ion driver at SNL. SNL has demonstrated production and focusing of PBFA-II ion beams to surrogate targets of relevant dimensions.

Development of the Laboratory Microfusion Facility (LMF)

The near-term usefulness of an LMF is important and highly significant to military applications, including experiments on selected weapons physics issues pertaining to design, diagnostics, nuclear-directed weapons, nuclear weapons radiation effects simulation, and nuclear hardness and survivability testing. Studies by the ICF program's participants and the nuclear weapons communities indicate an LMF operating at a driver energy of 10MJ could produce target gains of 10 to 100, the latter being equivalent to a quarter-ton of high explosive. The availability of such a facility would be critical in the event of a comprehensive or limited test ban treaty. The facility would continue to provide information for weapons development as well as help retain a qualified cadre of nuclear weapons designers at the national laboratories.

The successes of the past few years have established the ICF program's need to build a cost-effective laboratory thermonuclear fusion capability. As a result, plans are being developed which can lead to the establishment of an LMF in the next ten years. While research

remains to be done before a construction decision can be made, the time is at hand to begin planning such a facility.

Experiments which are significant to nuclear weapons will generally require the target's maximum yield. In maximizing yield from the target, the LMF will also provide invaluable information about the energy option for ICF, including information on the question of materials for a fusion reactor and the economics of power generation.

KMS Fusion's Contributions to the ICF Program

KMS Fusion, located in Ann Arbor, Michigan, is the only private sector participant in the ICF program. The Company has played a major role in the development of ICF and holds the fundamental patent on the process. Fusion research began at KMS in 1971, and in 1974 KMS achieved the world's first successful demonstration of laser-driver compression of fuel to produce thermonuclear reactions. This research was entirely paid for by the stockholders of KMS. Since then, KMS has contributed many innovations to the program as a Prime Contractor to DOE:

- KMS was the first to carry out experiments with short wavelength laser light, a technique subsequently adopted worldwide.

- KMS pioneered the use of frozen (cryogenic) fuel in ICF targets, a complex technique that will be incorporated in all advanced facilities.

- In 1981 KMS scientists demonstrated cryogenic targets performed better than room-temperature, gas-filled targets.

- In 1986 experiments at KMS combined the use of cryogenic fuel in plastic shells with precise control of the laser pulse's temporal shape to further improve target compression.

- KMS played a pivotal support role in the development of the first laboratory x-ray laser. In late 1985, LLNL announced the first successful x-ray laser experiments. Prior to this

landmark achievement, KMS and LLNL scientists collaborated to perform extensive experiments in Ann Arbor to characterize the dynamics of their target designs. KMS also helped development high-resolution spectroscopic information from which LLNL scientists were able to demonstrate the x-ray laser's performance.

KMS has also contributed to the development of sophisticated diagnostic instrumentation for fusion experiments:

- In 1983 the Company developed a unique multi-frame holographic interferometer for visualizing the "blow-off" of material from the surface of a target. This instrument, the world's fastest "movie camera," is capable of providing stop-action images in 20 trillionths of a second. Up to four images can be recorded during each experiment.

- During the 1986 cryogenic implosion experiments, KMS implemented the technique called x-ray backlighting, a technique that provides radiographic images similar in concept to medical chest x-rays. An additional laser beam struck a metal surface close to the implosion target to produce an intense beam of x-rays. This x-ray beam passed through the imploding target and was recorded by a high speed recording device which produced a time-resolved record of the implosion history.

- In 1988 KMS fielded a fast multi-frame camera to take stop-action soft x-ray images in 100 trillionths of a second. The resulting four-to-seven frames provide an x-ray "movie" to complement the KMS interferometer data.

The Current Role of KMS Fusion

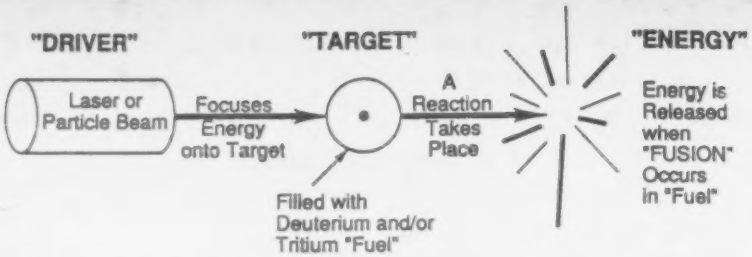
Since the early 1970s, KMS has been a "full-system laboratory" providing laser development, physics data, target fabrication and development, and diagnostic development for the ICF program. Within the last year, as a result of discussions with DOE and other program participants, the KMS role has begun to focus on target fabrication and development and diagnostic development for the ICF program.

The Happer Committee recognized that target fabrication is a pacing element in the ICF program and requires adequate resources. Historically, this area has been underfunded. KMS recognizes the need to rationalize the ICF program by having the main participants focus on their respective strengths to avoid duplication and redundancy. The Company is the major supplier of targets and target technology to the ICF program. KMS holds the basic patents for much of the target technology for ICF. Currently, target fabrication and development comprise more than half of the Company's ICF activities.

In 1985 and 1986, record neutron yields were obtained in experiments conducted at UR/LLE, the university of Osaka Institute for Laser Energetics in Japan, and at LLNL. Both the UR/LLE and LLNL experiments used target capsules supplied by KMS. In the Japanese experiments, the targets were made using techniques patented in Japan by KMS. Recent record fuel density claims by UR/LLE are based on experiments utilizing cryogenic targets and apparatus originally supplied by KMS.

The Company intends to stress the importance of the development of advanced fuel capsules for the next generation experiments. These targets involve several techniques developed at KMS including cryogenic fuel handling, the application of new target materials, and the metrology (characterization) of the completed targets.

Inertial Confinement Fusion (ICF)



How ICF Works

When the *Driver* focuses enough energy onto the target, and when the *Target* is made *"just right,"* the interaction between the *Driver* and the *Target* causes *Fusion* to occur.

An efficient, cost-effective interaction produces much more energy than is required to start the whole process.

Goal of ICF

The goal of ICF research is to capture the energy released and apply it to military and civilian needs.

Benefits of ICF

The process is CLEAN because there is very little waste associated with it. Also, it does not contribute to the *"Greenhouse Effect"* because it does not involve burning fossil fuels such as oil and coal.

The process is inherently SAFE because it is interruptible, i.e., if you do not insert the *Fuel* or fire the *Driver*, nothing happens. Therefore, no *"China Syndrome"* or *"Meltdown"* is possible.

The Fuel is derived from water and is believed to be so abundant that it is INEXHAUSTIBLE.

Applications of ICF

- Military - nuclear weapons
- Energy - generate electricity

What are the Critical Needs in the ICF Program?

- Better, cheaper and more efficient "Drivers"
- Better, cheaper and more efficient "Targets"

What is KMS' Role?

KMS believes that it can best support the ICF Program *by focusing on targets and diagnostics* while the National Labs focus on experiments and driver development.

KMS Fusion, Inc.

STATEMENT OF THE NATIONAL DEMOCRATIC POLICY COMMITTEE

Thank you, Mr. Chairman, for the opportunity to testify on Energy and Water appropriations for fiscal year 1990.

Crucial decisions will have to be made in the area of energy policy in six basic areas. The NDPC would like to focus on the energy side in our written statement.

First, the sabotage of the civilian nuclear power industry and electric utilities over more than a decade, through regulatory and antinuclear "environmental" organizing, has resulted in severe shortages of electric power in various parts of this nation. This situation will get worse before it gets better. There are NO legitimate reasons not to go full speed ahead with nuclear power.

This requires the timely completion of all plants under construction; the end to regulatory and financial warfare against the nation's utilities; the availability of low-interest credit to begin to build our way out of the shortages; and the implementation of the modular, standardized, and most advanced nuclear fission power designs, so the nation can return to a healthy 6-to-7 percent rate of electricity growth per year, using the most economical technology.

Second, the defense production situation requires a crash program approach to complete not one but at least three different "next-generation" tritium-production facilities, while keeping on line as many of the current reactors as needed to keep the nation's defense effort adequately supplied with tritium. The key here is redundancy of facilities--and no capitulation to the so-called environmentalists whose purpose is actually to force unilateral U.S. disarmament.

Third, research and development spending by the Department of Energy is the only way to ensure the energy future of this country. Over the past eight years, under the rubric of the "free market," the nuclear fission budget has been reduced and research and development has stagnated, while entire projects such as spent nuclear fuel reprocessing, have been abandoned. Funding for research in thermonuclear fusion, the unlimited energy that must be ready to play a major role in U.S. energy supply by the beginning of the next century, has declined by about 25 percent, in absolute dollars.

The nuclear fission and fusion research and development budgets both must be brought back to a level where they can develop new energy technologies. The nuclear budget should include funding to develop prototype reactors and facilities for breeder reactors, spent fuel reprocessing, advanced technologies for fuel enrichment, and fission-fusion hybrids for a variety of functions.

Fusion energy should be proceeding with the goal of producing an engineering test reactor as quickly as possible, close to the turn of the century. This effort must include adequate funding to proceed with tritium testing in the Princeton Tokamak Fusion Test Reactor, the construction of the Compact Ignition Torus, the acceleration of the other tokamak and also non-tokamak magnetic fusion energy concepts as well as the inertial fusion programs, and the most broad-based approach to solving the remaining scientific questions in fusion research.

Fourth, the X-ray laser and other portions of Strategic Defense Initiative research that are overseen by the Department of Energy and carried out in DOE national laboratories must be funded with the goal of producing a layered system of defense that will meet President Reagan's initial 1983 mandate to make nuclear weapons "impotent and obsolete." Impressive results have been produced in these directed-energy weapons technologies over the past four years, and they should not be held back by limitations in funding.

Fifth, is the question of radioactive waste. The main problem here, aside from the fact that waste disposal has become a political football, is that this nation decided not to complete the nuclear fuel cycle, therefore necessitating the burial of 100 percent of the waste, instead of very small percentage--4 percent--that cannot be recycled. Reprocessing is a known and tested technology; we should join with the rest of the nuclear nations and begin reprocessing spent fuel.

Sixth, is the area of education. On the graduate level, the department must ensure through special programs that top-quality students are recruited into nuclear engineering and nuclear research programs. Without such recruitment, we will not have the talent to run the nuclear plants of the near future. On the high school and college levels, the department must make available the kind of educational materials that will not only encourage students to pursue careers in nuclear energy but also, more generally, to promote an understanding of nuclear power and to counter the misinformation prevalent in the media.

In all of these policy areas, adequate funding will ensure that the basis is laid for future, physical growth in the economy. The energy as well as national security of this nation will, in large part, depend upon the decisions made and the funding levels provided.

STATEMENT OF NATIONAL WOOD ENERGY ASSOCIATION

INTRODUCTION

Mister Chairman, I would like to thank you and the Subcommittee for providing the National Wood Energy Association (NWEA) with the opportunity to submit testimony regarding the U.S. Department of Energy's biofuels research and development budget for FY 1990.

Between 1981 and 1987 spending by the federal government for biofuels research averaged $31.41 million dollars. During that time, biomass expanded its contribution to the nation's energy supply from 2.5 Quads to 3.8 Quads. This equates to an expansion from 3% to almost 5% of the country's primary energy supply. During the same time frame, electrical generation from biofuels in the form of small power producers, independent power producers and cogenerators, has expanded from an estimated 250 MW to 5,100 MW.

The credit for this expansion should go to the companies who make up the membership of the National Wood Energy Association - the project developers, equipment manaufacturers, architect and engineering firms, woodlot owners, and foresters who put the projects in the ground and develop and manage the feedstocks that fuel these plants.

The federal government also played a role in fostering the expansion of this underutilized energy resource. Tax credits, which expired in 1986 permitted, a commercial tax credit of 10% of the installed cost of these facilities. The Public Utilities Regulatory Policies Act of 1978 (PURPA) provided the regulatory framework necessary to allow small power producers and cogenerators access to utility markets. And, a sizeable research budget, averaging around $40 million during the first half of this decade, provided the research base necessary to increase the use of wood and other biomass fuels for energy.

In the last several years things have changed. The tax credits are gone. PURPA, thanks to a new series of FERC proposals, is in disarray because FERC recommends disregarding the original intent of PURPA to foster the use of renewables. And, the research budget has sunk to a minimal $13.435 million.

One should not get the impression, however, that the use of biomass energy is dependent on government involvement. This is not an industry that has depended on federally financed demonstration projects. The federal action early in the decade did help get the industry off the ground, but the federal investment has always been modest and, I think you will agree, has paid off rather handsomely as evidenced by the level of federal effort (see chart below) versus the amount of energy that has been generated.

As this nation considers the future, my membership believes that biofuels offers an economically and environmentally

sensible solution to the need for additional electrical generation capacity, thermal and steam loads, gas supplies and transportation fuels.

ENVIRONMENTAL AND ECONOMIC CONCERNS

Acid Rain - Biomass offers a low cost solution to the problem of acid deposition. The reason is fairly simple; wood contains virtually no sulphur. So, whether you burn the wood or agricultural waste directly, gasify it, or convert it into ethanol, methanol or gasoline, it still releases no sulphur dioxide into the environment. Moreover, the limited research on cofiring wood with coal indicates that wood ash actually traps acids that would otherwise be emitted from the stack. One researcher has gone so far as to calculate that cofiring wood with coal can eliminate the need for scrubbers in some applications. The bottom line is that cofiring offers a low cost solution to the acid rain problem.

The Greenhouse Effect - Policymakers have recently begun to focus on the increasing concentrations of 'greenhouse gases' in the atmosphere. There seems to be little scientific doubt that increasing quantities of carbon dioxide, methane, chloroflourocarbons (CFCs) and other gases trap solar heat within the atmosphere and will result in eventual global warming.

While the combustion of biomass in solid, liquid or gaseous forms, does release carbon dioxide, when one looks at the use of biomass as a cycle which includes the growth of trees or crops there is no net increase in atmospheric carbon levels. This concept is known as the carbon cycle. As trees or other biomass materials grow, they absorb carbon from the atmosphere; the more rapid the growth, the greater the carbon absorption. Carbon is fixed in the plant until it is harvested. Once harvesting takes place, the carbon is inevitably released regardless of whether the biomass is burned or naturally deteriorates. So long as you are regrowing sufficient biomass to replace what you harvest, there is no net increase in carbon dioxide released to the atmosphere. If you are 'mining' the resource, as is occurring in South America, the cycle is thrown out of balance. In the United States, we are in a reforestation situation - we are growing more trees than we are harvesting - so our present use of our biomass resources actually is helping to solve the problem.

Much of the biomass used for energy in this country is waste wood that would otherwise rot in the forest or be hauled to a landfill. The decomposition of biomass produces an acid run off and methane - both harmful to the environment. Methane is four times more efficient at blocking infrared radiation as carbon and as such is one of the strongest contributors to the greenhouse effect. Burning the biomass for energy eliminates the methane release.

In addition, a number of researchers, many of them funded by the biofuels budget under discussion today, are looking at short rotation forestry (SRIC) as a means of removing carbon from the atmosphere. SRIC forestry involves using hybrid trees which grow rapidly, fixing large amounts of carbon from the atmosphere. For instance, work on hybrid poplar being done at Oak Ridge National Laboratory has produced trees growing on a plantation site in Washington that reach a trunk diameter of 6 inches in five years and are fifty feet high. Moreover, once the trees are harvested they regenerate themselves through a technique called coppicing - in other words, they grow back from the trunk that remains. The harvested trees can be used to substitute for fossil fuels in boilers, or converted to pipeline quality gas, chemical feedstocks or even gasoline. The Department of Energy has calculated that the production of of methanol or gasoline from wood with regrowth would actually decrease the amount of carbon in the atmosphere. (See attachments.)

Solid Waste - We are all aware of the waste disposal crisis that is facing this country. Perhaps you remember the garbage barge that went on a world cruise. Well, that barge carried trash from Islip, New York. The trash did not include any wood. Why? Because one of our member companies, Hubbard Sand and Gravel, accepts all of Islip's clean wood waste (tree trimmings, pallets, packages, construction debris, etc.) and processes it into wood fuel which is burned in a 50 MW power plant owned by Proctor and Gamble on Staten Island. Hubbard is also in the process of building its own 3 MW cogeneration station that will provide electricity for 2,000 homes and steam to heat a series of greenhouses to be built on the site. The diversion of that wood extends the life of the existing landfills, and eliminates a potential cause of groundwater pollution. It also minimizes the chance that methane, produced during the decomposition of the wood in the landfill, can migrate into nearby homes creating a potentially explosive situation. Overall, segregated wood waste now comprises approximately 25 percent of the volume of our nation's landfills, so the resource potential is quite extensive.

Economic Development - Wood power plants are generally located in rural areas and are labor intensive due to the harvesting and handling requirements of the facilities. As many of you know, rural areas are the most difficult places in which to foster economic growth. The growth of the biomass energy industry has resulted in the expenditure of approximately $7.5 billion of investment capital in the last eight years, much of it in rural areas. Increased utilization of our biomass resources will require that more capital flow into rural areas resulting in additional employment.

BIOFUELS ENERGY SYSTEMS BUDGET

The last seven years have seen continuous reductions in in the R & D budgets for both biofuels specifically, and renewable

energy in general. The cuts have in renewables have been far greater than other U.S. Department of Energy research programs:

PROGRAM	*FY'81*	*FY'89*	*PROPOSED FY'90*
BIOFUELS	*$57.7*	*$13.4*	*$ 9.0*
TOTAL RENEWABLES	*$557.1*	*$80.03*	*$67.7*

The Subcommittee should realize that current mid- and long-term R & D efforts within the Biomass and Municipal Waste Technology Division (BMWT) of the Department of Energy are currently at rock bottom levels. The Subcommittee should further realize that these research programs, while necessary to the future energy security of the country because they will provide alternative liquid and gaseous fuels for use in the transportation sector, have limited relevance to the commercial wood energy industry which is based on direct combustion technology. The only programs within BMWT which provide direct assistance to the industry are the Regional Biomass Energy Programs, now operating nationwide. These are zeroed out in the President's request, as they have been since their inception in 1983.

Recent funding for Biofuels Energy Systems has been constantly declining:

Program Activity	*FY'88 Actual*	*FY'89 Appropriation*	*FY'90 Request*	*FY'90 NWEA Proposed*
Terrestrial Crops	*$3,383*	*$3,800*	*$3,800*	*$4,250*
Aquatic Energy Crops	*1,490*	*1,100*	*1,100*	*200*
Thermochemical Conversion	*3,345*	*3,755**	*1,400*	*4,475*
Biochemical Conversion	*4,390*	*2,130*	*2,100*	*5,695*
Regional Program	*4,000*	*2,000*	*0*	*5,400*
Capitol Equipment	*600*	*550*	*600*	*600*
NWEA New Initiatives	*0*	*0*	*0*	*1,500*
Total, Biofuels Energy Systems	*$17,055*	*$13,435*	*$ 9,000*	*$22,000*

** Includes $2.4 million for hydrogen research.*

NWEA contends that a reversal of this decline is warranted. We believe it is counterproductive to continue to maintain or in some cases increase funding for fossil and nuclear R & D while ignoring indigenous renewable energy resources. Frankly, when one combines the effects of the new tax law, which continues to grant tax advantages to fossil and nuclear while denying any advantages to biomass, and the heavily one-sided R & D budgets, which subsidize commercial technologies, renewable technologies are at a decided disadvantage. We therefore recommend, at a minimum, a funding level of $22,000,000 for Biofuels Energy Systems. In addition, R & D work within SERI and Oak Ridge National Laboratory must be maintained and potential R & D which highlights new environmentally benign products or processes should be encouraged.

NWEA has also strongly objected to funding hydrogen research out of the biofuels budget. In FY 1990, US/DOE has recommended a discrete line item for hydrogen since it can be produced through the use of all renewable technologies. NWEA urges the Subcommittee to support a line item for hydrogen research.

NWEA believes that the U.S. biofuels program must be more responsive to the direct combustion industry. At least $1 million of directives out of the overall budget must be included. NWEA recommends that the following research initiatives as part of those directives:

WOOD ASH DISPOSAL - States and the U.S. EPA are becoming increasingly concerned and aware of potential contaminants in ash. While the ash resulting from buring raw wood chips, forest residues and other uncontaminated wood is actually beneficial as a soil additive, urban wood waste such as demolition debris can contain contaminants. Research in this area, performed in conjunction with U.S. EPA can prevent restrictive regulations from prohibiting the utilization of this resource.------$250,000

COMBUSTION OF 'UNCLEAN' WOOD - Several states have banned the burning of fiberboard, particleboard and flakeboard, among other wood products, because of a fear that the binders used in these materials have the potential to produce air toxics. While manufacturers have indicated that no toxic precursors are used in the binders, states require documentary evidence. Unfortunately, wood systems using these wastes as fuels are generally used and manufactured by small to mid-sized companies who cannot afford the testing. The manufacturers of these products do not view these composite boards as fuels, so testing seems pointless to them. However, some federal seed money spent in cooperation with industry, would allow the test burning of these materials and the determination of which ones can be cleanly burned and which should not be. Burning of these materials, when appropriate, eliminates the necessity for landfilling of these wastes, an obvious advantage.------$200,000

WOOD/COAL COFIRING - Additional research into the dynamics of wood/coal combustion could help provide answers to the Department's attempt to find ways of burning high sulphur coal cleanly. Evidence exists that indicates that cofiring with wood does have an impact on the formation of sulphur dioxide. Research could be done at facilities currently cofiring these two fuels.------$150,000

WOODFUEL STORAGE AND DELIVERY SYSTEMS - Additional work is needed in the development of economical woodfuel storage and delivery systems. In particular, work is needed on leachates from stored wood fuel, handling systems for large sized woodfuel, and small scale chip delivery systems, to name just a few potential topics. Research in these particular three areas would answer questions about potential groundwater contamination, help decrease the amount of energy utilized in processing woodfuel, and aid in the development of new markets for wood energy systems, respectively.--------$200,000

WOOD ENERGY STATISTICAL INFORMATION - The information base of the federal government on woodfuel utilization is in a deplorable state. The last detailed federal information on the energy contributions of renewable energy was published in 1981. Policy makers such as this committee need information on a feedstock providing five percent of this nations energy if responsible decisions on energy issues are to be made. The Energy Information Administration has to capability to collect this information, but does not have the funds. Funding for this information is desperately needed.------$200,000

NWEA also recommends an additional $3,400,000 (for a total of $5.4 million) in funding for US/DOE's regional programs. These programs provide a conduit for the research conducted in the other BMWT programs, effectively moving this information out to the commercial industry. These programs also develop information essential to the industry such as resource assessments, providing technical assistance to potential converters to woodfuel, studying the impacts on the forest resource base of harvesting wood for energy, and helping to understand the environmental impacts of biomass utilization.

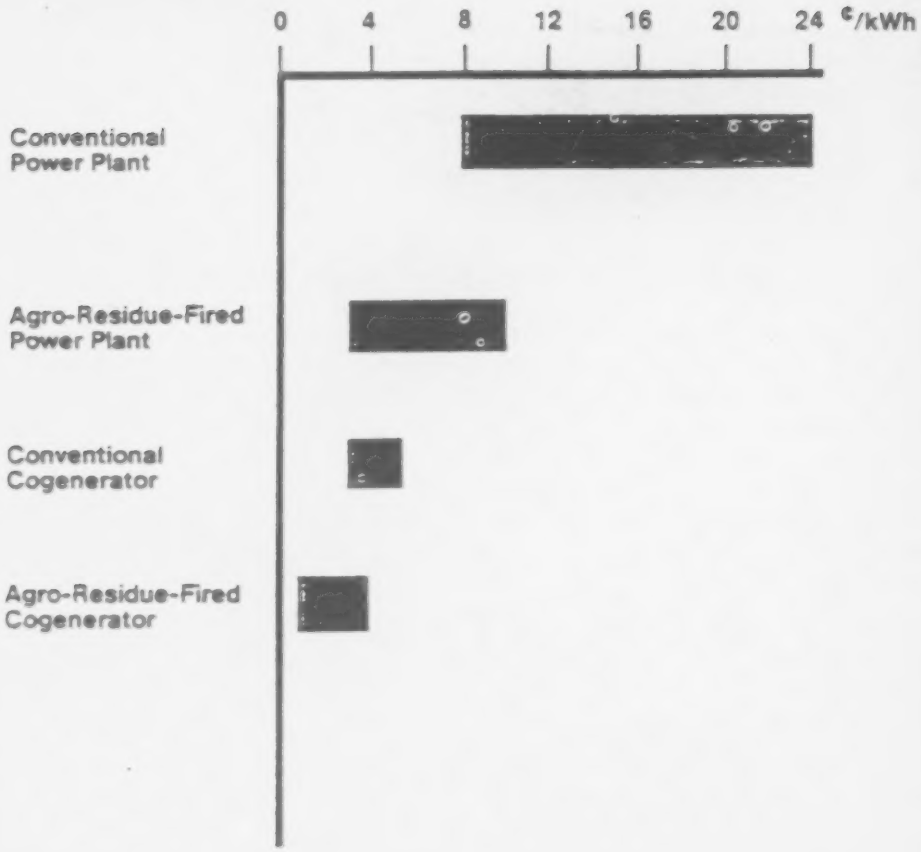
The Regional Programs have also worked in the agricultural sector to develop small scale biomass applications to help keep family farms viable, as well as developing networks of urban wood waste suppliers to provide low-cost or no-cost woodfuel, while helping to minimize necessary landfilling. The network of state officials involved in these programs prevents duplication of effort by government and enhances the ability of states to work with and understand an important energy resource. This increase is justified by cut in funding which occurred for the first time last year. The existence of a dollar for dollar match throughout the life of this program program warrants additional funding.

CONCLUSION

Constant decreases in federal R & D funding have not prevented the increasing use of wood for energy in this country. These decreases have, however, crippled the effort to develop alternative transportation fuels, which are vitally needed. Modest increases in funding can begin to recapture the momentum of the beginning of this decade, building on a leaner, tougher research base. Our international competitors are increasing their biomass programs in anticipation of a retrenchment in U.S. federal biofuels R & D. We must give our industry the research base with which to compete effectively in the international marketplace.

In addition, these modest requests can help break down the remaining barriers to the complete utilization of traditional direct combustion technologies: providing this country with increased energy independence; expanding job opportunities in rural areas; unleashing the environmental benefits associated with better managed woodlands; and, providing the satisfaction and economic consequences associated with spending American dollars for American fuels. Thank you.

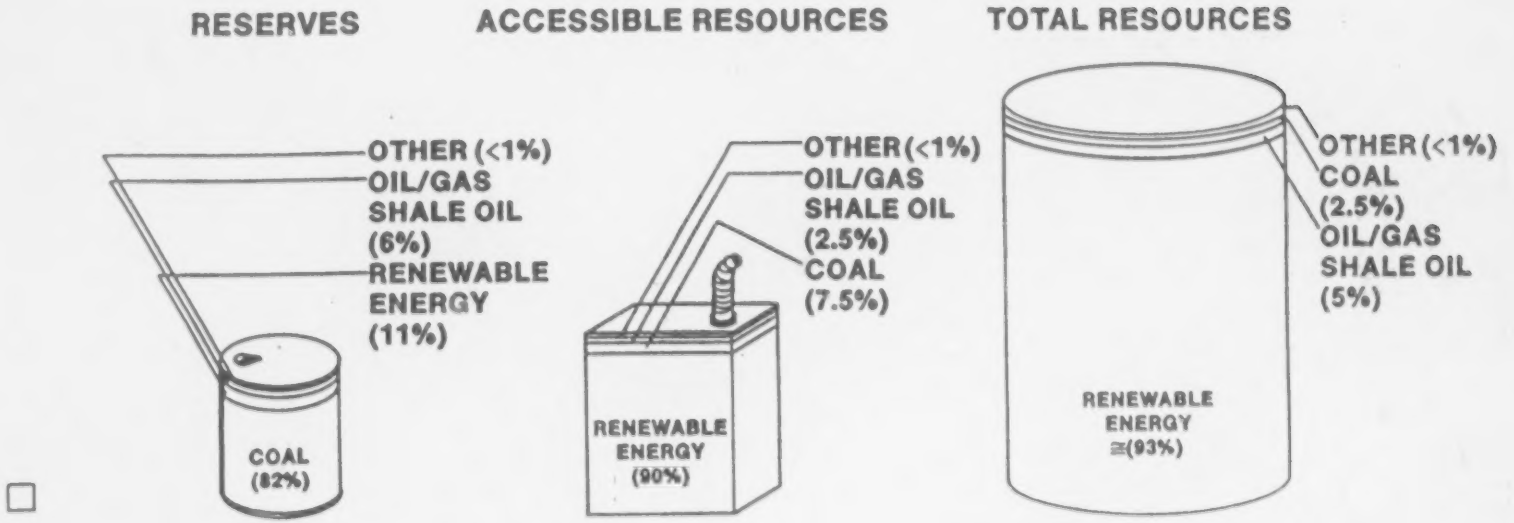
Total Capital and Operating Cost of On-Site Electricity Generation



Assumptions:

1. Plant size: 250 kW to 40 MW
2. Capital costs: U.S. $1,000-3,000/kW
3. No cost for feedstock.

U.S. ENERGY RESOURCE/ ESTIMATES

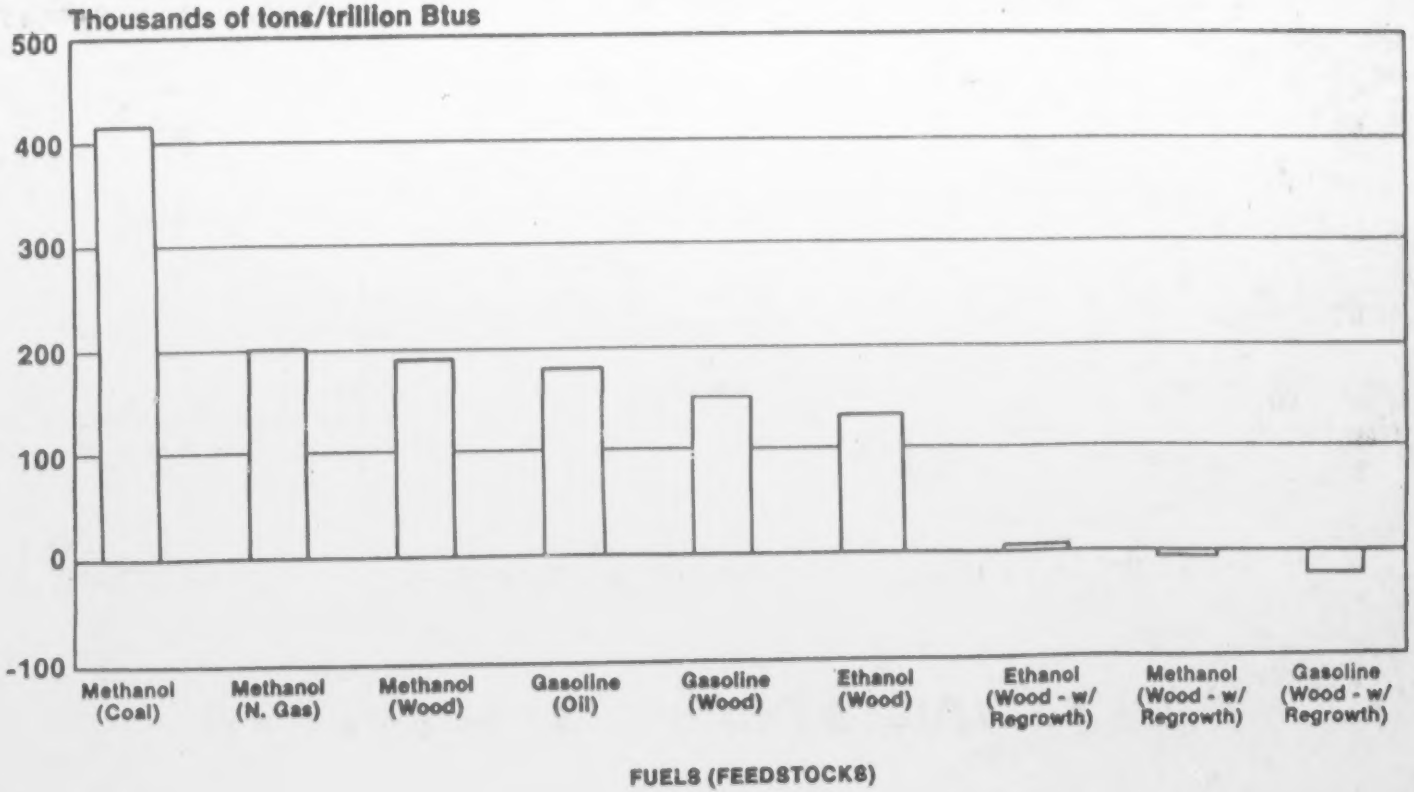


1,105 Billion Barrels of Oil Equivalent
(6,497 Quads)

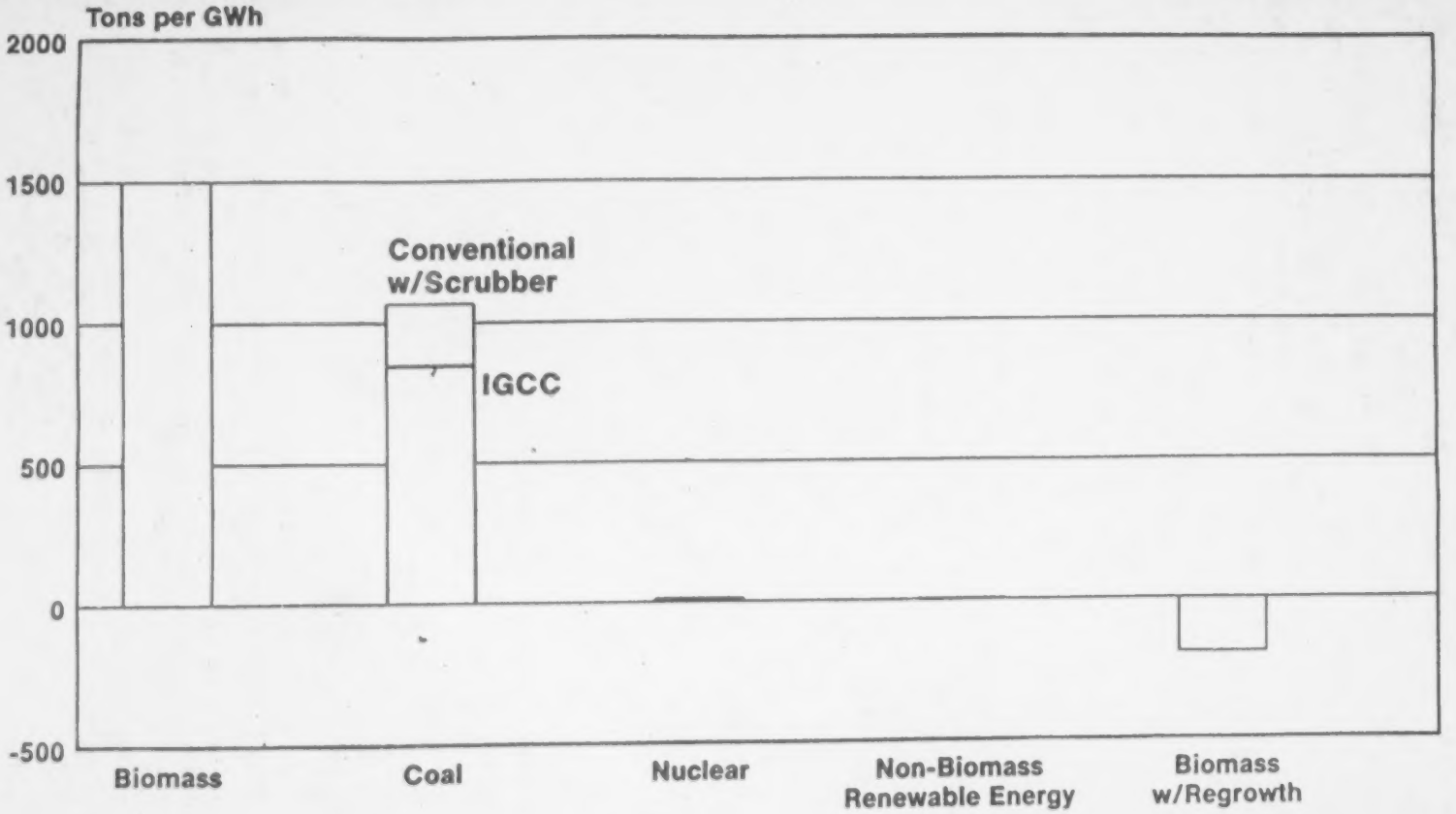
87,274 Billion Barrels of Oil Equivalent
(513,376 Quads)

599,322 Billion Barrels of Oil Equivalent
(3,525,542 Quads)

CARBON DIOXIDE EMISSIONS: LIQUID FUELS



CARBON DIOXIDE EMISSIONS: ELECTRIC GENERATION



STATEMENT OF ANTONINE LAFATA SOTTILE

Mr. Antonine Lafata Sottile,
Ph. Doctor of Engineering
P.O. Box 28292
Washington, DC
20038-8292

Washington, DC. Febr. 12. 1989 -
Honorable Congress of The USA.
SENATE Appropriation Committee -
Energy and Water Development
Sub-Committee - Washington. DC.
- 20510 -

REF.

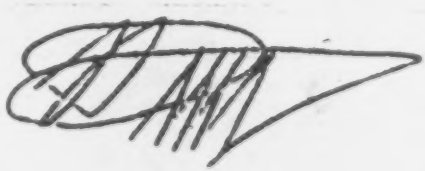
My 23.rd and 24.th Application to This Honorable Congress to Appropriate in Fiscal Year 1990. $. 25. Million (defined a Quark, a sub-atomic particle, in a Trillion $. Budget) in order to achieve National Energy Independence, and to sustain our Nation's HIGH TECH. Advantage.

Dear Chairman and Members of the Committee

The SCIENCE on behalf of my Projects and Inventions :

Past year I quoted the 1987 Nobel Prize in Physics awarded for the discovery of Ceramic compounds with higher absolute Temperatures Kelvin, as super-conductors of Electricity : first a compound of Lanthanum, then of Yttrium, and after of Tallium.
Practical result : the possibility of exploiting Nitrogen liquid with a high boiling point = 77. degrees K, as refrigerant for super-conductivity.
This time
I quote the 1988 Nobel Prize in Chemistry, awarded to Scientists which discovered the simple method a Bacterium exploits in the Photosynthesis, the process that converts Sun light into chemical Energy.
CHEMISTRY - Time Oct. 31. 1988 : " The laborious research opens the possibility that someday scientists will be able to produce solar Cells that mimic the design of Photo--synthesizing Molecules spanning the Bacterium's membrane."

The Congress on behalf of my Projects and Inventions :
See the annexed page titled "National Policy on Technology" summary of the House Peport 100-1093, by the Technology Policy Task Force of the Committee on Science, Space, and Technology.
It is an alarm on the Trade deficit of The United States, which is losing more than 340 Million $./day in Trade to our foreign Competitors.
The Task Force and the Advisory Board considered many possible solutions : among them improved education in Engineering, Mathematics, and Science; organization of a Department of Science and Technology; a joint Venture of Government/Industry; new priority mission for Federal and National Laboratories; and others.

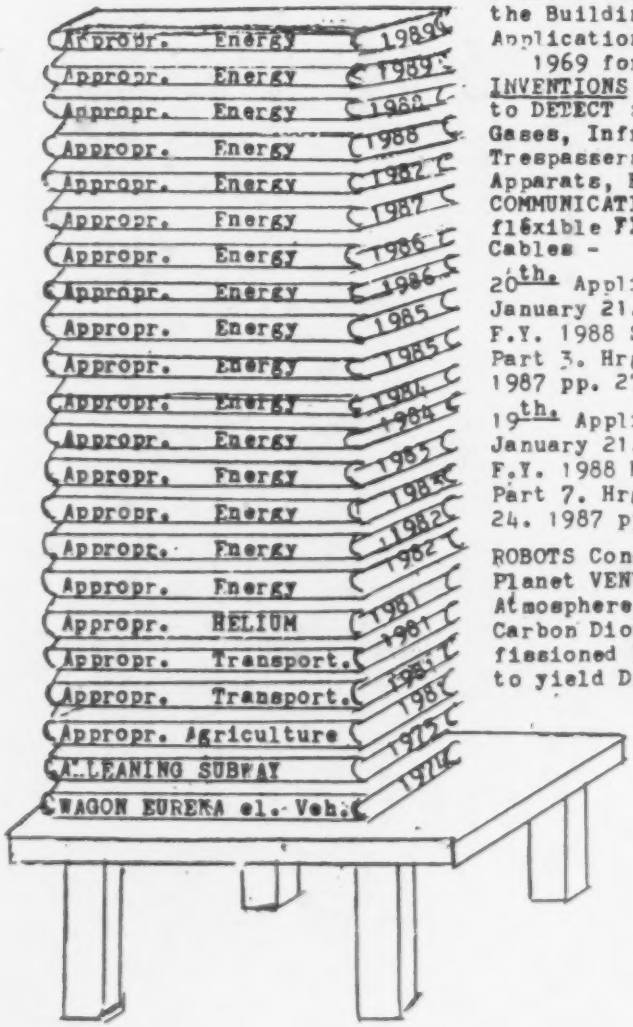


Mr. Antonine Lafata Sottile
Ph. Doctor of Engineering

National Energy Independence
PROJECTS

My SENATE and HOUSE Tabled Statements

Fiscal Year 1974 to Fiscal Year 1989


22. Appropr. Energy 1989
21. Appropr. Energy 1989
20. Appropr. Energy 1988
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10. Appropr. Energy 1983
9. Appropr. Energy 1983
8. Appropr. Energy 1982
7. Appropr. Energy 1982
6. Appropr. HELIUM 1981
5. Appropr. Transport. 1981
4. Appropr. Transport. 1980
3. Appropr. Agriculture 1979
2. A..LEANING SUBWAY 1978
1. WAGON EUREKA el. Veh. 1974

22nd. Application of January 29. 1988 for F.Y. 1989 SENATE Rec. Part 2. Hrgs. April 1. 1988 pp. 2043-2048

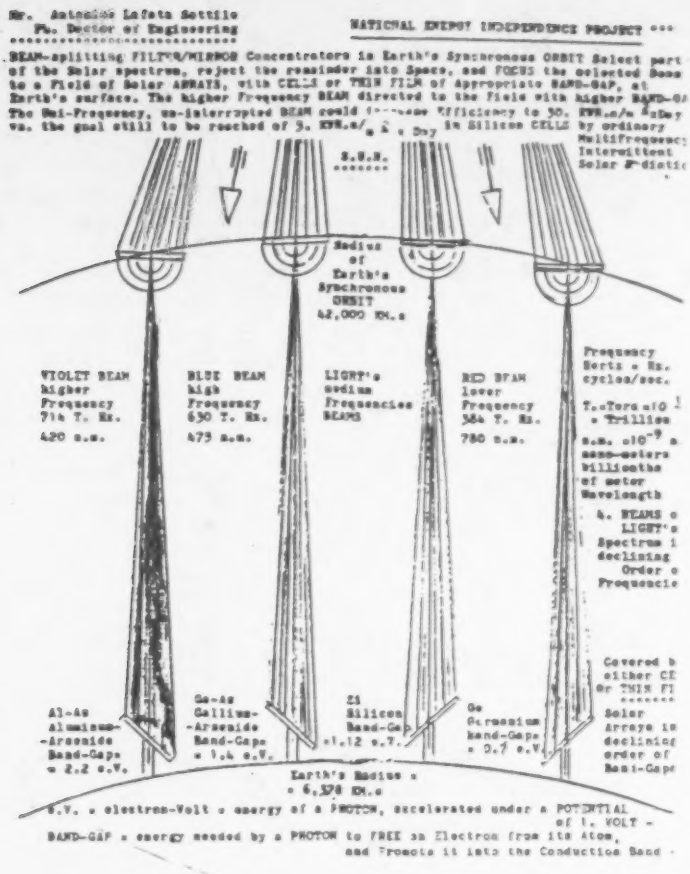
21st. Application of January 29. 1988 for F.Y. 1989 HOUSE Rec. Part 8. Hrgs. April 13. 1988 pp.1877-1846

LASER's Utilization in the Buildings - See my Application the Year 1969 for PATENT of INVENTIONS - The LASER to DETECT : Earthquakes, Gases, Infractions by Trespassers, to FEED Apparats, Bulbs, and for COMMUNICATIONS, inside flexible FIBER-OPTICS Cables -

20th. Application of January 21. 1987 for F.Y. 1988 SENATE Rec. Part 3. Hrgs. April 5. 1987 pp. 2739-2742

19th. Application of January 21. 1987 for F.Y. 1988 HOUSE Rec. Part 7. Hrgs. March 24. 1987 pp. 209-218

ROBOTS Conditioning Planet VENUS' heavy Atmosphere of CO_2 Carbon Dioxide - The fissioned PURE Carbon to yield DIAMOND


Mr. Antonino Lafata Sottile
Ph. Doctor of Engineering
NATIONAL ENERGY INDEPENDENCE PROJECT
BEAM-splitting FILTER/MIRROR Concentrators in Earth's Synchronous ORBIT Select part of the Solar spectrum, reject the remainder into Space, and FOCUS the selected Beam to a Field of Solar ARRAYS, with CELLS or THIN FILM of Appropriate BAND-GAP, at Earth's surface. The higher Frequency BEAM directed to the Field with higher BAND-G
The Uni-Frequency, un-interrupted BEAM could
va. the goal still to be reached of 3. KWH.s/
in Silicon CELLS
by ordinary
Multifrequency
Intermittent
Solar R
S.S.S.
Radius of Earth's Synchronous ORBIT 42,000 Km.s
VIOLET BEAM higher Frequency 714 T. Hz. 420 n.m.
BLUE BEAM high Frequency 650 T. Hz. 473 n.m.
LIGHT's medium Frequencies BEAMS
RED BEAM lower Frequency 384 T. Hz. 780 n.m.
Frequency Hertz = Hz. cycles/sec.
T.=Tera =10 = Trillion
n.m. =10 n. nano-meters billionths of meter Wavelength
4. BEAMS of LIGHT's Spectrum i declining Order o Frequencie
Covered b either CE or THIN FI
Solar Arrays in declining order of Band-Gaps
Al-As Aluminum--Arsenide Band-Gaps = 2.2 e.V.
Ga-As Gallium--Arsenide Band-Gaps = 1.4 e.V.
Si Silicon Band-Gaps =1.12 e.V.
Ge Germanium Band-Gaps = 0.7 e.V.
Earth's Radius = 6,378 Km.s
e.V. = electron-Volt = energy of a PHOTON, accelerated under a POTENTIAL of 1. VOLT =
BAND-GAP = energy needed by a PHOTON to FREE an Electron from its Atom, and Promote it into the Conduction Band

Proposed Disposition of Beam-splitting Filter-Mirrors Concentrators in Earth's synchronous Orbit, apt to provide 8.76 Trillion KWH/Year of Solar Electricity, that is about the Total Energy of every kind, used recently in one year in The USA,:
To select 120 SITES, along the Sea coast-lines, in the deep Canyons of rivers, and in the desert bottoms of Valleys.
Each SITE to be equipped by 10. square Kilometers of Photovoltaic Arrays with appropriate Band-Gap.
For example : Higher frequency VIOLET Beam focusing on Al-As Aluminum-Arsenide Array; High frequency BLUE Beam on Ga-As Gallium-Arsenide Array; Medium frequencies Beams on Si. Silicon Array; Lower frequency RED Beam on Ge. Germanium. Array - Each SITE's 10. Million square Meters, at 20. KWH/sq. meter xday could provide 200. Million KWH/day, and in one year 200. M. x 365 = 73. Billion Kilo-Watt-Hours.
120. SITES would generate 73. G, x120 = 8.76 Trillion KWH.s/Year
By this high Efficiency conversion of Sun light into electrical energy, through uni-frequency, permanent Beams, Solar Electricity will result Competitive to Electricity of other sources
W..

18) FY. 1987 SENATE Rec. Part 3. pp. 2133-2137 Hrgs.Apr.16.1986
17) " " HOUSE " " 8. " 1669-1675 " " " "
Project of SOLARdriven Liquid-Metal Magneto Hydro Dynamic Gener. to yield Electricity.

16) FY. 1986 SENATE Rec. Part 3. pp. 2693-2702 Hrgs.Apr.3.1985
15) " " HOUSE " " 9. " 3132-3141 " " " "
Project of a Network of underground Tunnels exploiting Gravity

14) FY. 1985 SENATE Rec. Part 4. pp. 2431-2436 Hrgs.Apr.3.1984
13) " " HOUSE " " 8. " 1430-1436 " " " "
Seven Immortal Principles: 1. Solar Energy 2. Electrification 3. Electro-Magnetic Flying 4. Energy Savings 5. Tunneling 6. Gradient Utilization 7. Wagon EUREKA Expansion -

12) FY. 1984 SENATE Rec. Part 3. pp. 1643-1653 Hrgs.Mar.24.1983
11 " " HOUSE " " 7. " 874-884 " " " "
The $. 25. Million of Appropriation required for: To build a Wagon EUREKA Prototype - To experiment a SOLAR MIRROR in GEO--SYNCHRONOUS ORBIT
10) FY. 1983 SENATE Rec. Part 4. pp. 2711-2717 Hrgs.Apr.24.1982
9) " " HOUSE " " 8. " 2586-2593 " " " "
120. Solar Mirrors settled in Earth's Synchronous ORBIT could provide the total Energy of every kind utilized in one year in THE USA. : about 8.76 Trillion KiloWattHours/Year -

8) FY. 1982 SENATE Rec. Part 3. pp. 1932-1943 Hrgs. Mar.24.1981
7) " " HOUSE " " 10. " 2402-2411 " " " "
Planets VENUS and MARS CONDITIONED in a 50. Years lapse vs. 1,000 Years proposed by Incompetents
6) FY. 1981 SENATE Rec. Part 3. pp. 953-957 Hrgs.May 16. 1980
Interior Committee: HELIUM Standard replacing GOLD Standard, as MONETARY Guaranty, next Century -
5) FY. 1981 SENATE Rec. Part 2. pp. 144-150 Hrgs. Apr. 16. 1980
4) " " HOUSE " " 7. " 615-619 " " 17. "
Appropriations on Transportation
3) FY. 1981 SENATE Rec. Part 3. pp. 513-514-515 Hrgs.Apr.2.1980
Appropriations on Agriculture : Useful INDUSTRIAL PRODUCTS by HARVESTED PLANTS -

2) SENATE Committee on Commerce, Science and Transportation Hearings Oct. 7-10 1975 on S. 1632 and HR. 8800 : ELECTRIC VEHICLE Act RECORD 94-96 - My Statement pp. 161-164 on my Project : LEANWAY = A Leaning Subway - Leanway's MOTTO : "To build and to operate 2. Subways, like the DC. Area METRO--RAIL by the BUDGET needed for only ONE." "To move 5. alike Subways by the Energy required for only ONE."

1) HOUSE Committee on Science and Technology. June 3-6 1975 HEARINGS on HR. 5470 ELECTRIC VEHICLE Act - RECORD 27. pp. 728-740 : My INVENTION " WAGON EUREKA " assures 4/5 of Energy Savings in Transportation by its UNDERFRAME engaged in successive Down-grades and Up-grades, providing FREE positive and negative ACCELERATIONS .

NATIONAL POLICY ON TECHNOLOGY

The Technology Policy Task Force

of the

Committee on Science, Space, and Technology

SUMMARIZED REPORT of October 4, 1988

.....

THE MISSION OF THE TECHNOLOGY POLICY TASK FORCE

The mission of the Task Force was to employ its knowledge of government and technology and suggest a policy which would help the U.S. maintain a leadership position in technology and product development in order to maintain a high standard of living. While there has been a shift in the labor force from manufacturing to service industries, a strong domestic manufacturing base is essential to a strong economy and military security. The question was, how could U.S. science and technology discoveries be more effectively converted to commercial products of high quality so that American products could better compete in the U.S. and foreign markets?

THE TRADE DEFICIT

While the lower value of the dollar has helped increase exports, it will not in itself remedy the trade imbalance.

The United States is still losing more than $340 million a day in trade to our foreign competitors. The Nation is aware of the rapidly changing world economy, but in spite of this awareness, and in spite of excellent R&D and productivity improvements on the part of some U.S. firms, there are still basic weaknesses in U.S. product development and manufacturing output on a national basis.

The Task Force considered many possible solutions to the trade deficit: trade and budget policy; technology transfer; mechanisms for setting government R&D priorities; improved education in engineering, mathematics, and science; increased cooperation between government and industry; new centers for technology development; tax incentives; patent laws; and others.

NATIONAL POLICY ON TECHNOLOGY

Part One - A Joint Government/Industry Venture

In considering this part of the policy, the Task Force reviewed four different organizations: a Department of Science and Technology, a change in the enabling language to expand the Office of Science and Technology Policy, a Council on Technology composed of representatives from industry and government, and a National Policy and Technology Foundation. The Task Force decided that the selection of a particular organizational structure should be made during the preparation of the legislation.

Part Two - A New Priority Mission for Federal and National Laboratories

This policy calls for opening-up the National and Federal Laboratories to support U.S. firms in the areas of biotechnology, medical technologies, aerospace systems, computer systems, software development, artificial intelligence, electronics including very large scale integrated circuits, propulsion systems, advanced sensors, optical information processing, steel and aluminum processing, advanced materials, thin-layer technology, manufacturing automation, environmental hazard reduction systems, energy systems, mass transit systems, and other priority areas.

SUBCOMMITTEE RECESS

Senator JOHNSTON. The subcommittee will stand in recess until the call of the Chair.

[Whereupon, at 3:08 p.m., Thursday, April 6, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1990

WEDNESDAY, APRIL 12, 1989

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:56 a.m., in room SD–192, Dirksen Senate Office Building, Hon. Quentin Burdick presiding.

Present: Senators Burdick and Reid.

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator BURDICK. The subcommittee will come to order. I want to welcome each one of you here today. We have a large number of witnesses that wish to be heard. Therefore, in accordance with our notification to each of the witnesses, it will take some self-restraint on the part of everyone to hold all testimony to a minimum in order that all of you that have requested an opportunity to testify may be heard.

I ask that the detailed, prepared statements that each of you have worked out very carefully be submitted for the record, where they will be carefully reviewed. Then if each witness will summarize, or highlight, the important points in his oral testimony, it will be most helpful.

So again, welcome. We may proceed with our first witness. Now we shall recognize the able Senator from South Dakota.

SOUTH DAKOTA WATER RESOURCE PROJECTS

STATEMENT OF HON. THOMAS A. DASCHLE, U.S. SENATOR FROM SOUTH DAKOTA

Senator DASCHLE. I thank the chairman and I commend him for two reasons: First, for running the railroad on time. This is an historical event in that we are starting the committee hearing prior to the time that it is supposed to begin. This is highly unusual, and I am sure the Washington Post will take note of it tomorrow.

I also want to commend the members of this subcommittee for the tremendous support that they have shown us in the last several years with regard to the funding of the WEB water pipeline.

Thanks primarily to this subcommittee, we have been able to fund that pipeline, and it will be completed this year, if we receive

the same kind of support that the subcommittee has provided in the past.

MNI WICONI RURAL WATER SUPPLY PROJECT

My priority today—and I will be very brief, Mr. Chairman because I understand what a long day you are going to have—is to talk about a project of equal importance to South Dakota. The project's name is Mni Wiconi, which is Sioux Indian for "good water." It will serve a 12,500-square mile area in my State, and will consist of 2,300 miles of pipeline. The Mni Wiconi pipeline will serve 13 municipalities and 12 Indian communities.

There is not a project in the State of South Dakota that merits funding this year more than the Mni Wiconi project. It is critical.

Mni Wiconi is known in South Dakota and here in the Congress as a water project. I would prefer to consider it a health project, because it is directly related to the health and well-being of thousands of South Dakotans. Ground water supplies are often unsafe, and residents are in many cases forced to truck in drinking water at great expense. So it is a critical issue for us.

First-year funding is always difficult, but South Dakotans are confident that as sensitive as this subcommittee has been to health projects, it's valuation of the Mni Wiconi will lead to a conclusion similar to that it has reached about WEB in the past. I thank you for that.

Those who can tell you more details about the Mni Wiconi project and the need for funding are going to follow my testimony. However, before deferring to him, I want to reiterate the appreciation of the entire State of South Dakota for this subcommittee's help in the past.

Senator BURDICK. Thank you very much. By the way, at this point I will ask unanimous consent that your full statement and a letter from George Mickelson, the Governor of South Dakota, on this very point be made part of the record.

[The information follows:]

STATEMENT OF SENATOR TOM DASCHLE

On behalf of the people of South Dakota, I wish to thank the Chairman and the other members of the Subcommittee for the chance to make the water development needs of South Dakota known. This subcommittee has been very generous to South Dakota in the past, and for this I am grateful. However, many pressing water problems face the state, and the Administration's proposed allocation for South Dakota ignores or inadequately addresses many of these needs.

In South Dakota, as in much of the United States, water is a very precious commodity. Unlike much of the country, in South Dakota, water cannot be and is not taken for granted. The drought of last summer, which continues in many areas today, showed the nation some of the problems facing the State. Where water is present, it may not be safe to drink. Much of West and East River South Dakota lies over groundwater resources containing a variety of dangerous elements, including radium, sodium, and flouride, that far exceed EPA standards.

I am keenly aware of the budget constraints facing the Subcommittee, and the entire Congress, and I fully support efforts to curb the deficit. We all must identify genuine needs as opposed to wish lists. My request is not a wish list -- my wish list would be much longer, for there are many other deserving South Dakota projects seeking funding, and still others seeking additional funding. The list I offer today includes Bureau of Reclamation and Army Corps of Engineers projects that are vital to the economic development and societal needs of South Dakota. Some projects are included in the Administration's budget request. Others have been inexplicably underfunded or totally ignored.

WEB Rural Water Pipeline

The WEB Rural Water Pipeline is a pipeline of more than 3,500 miles, delivering clean drinking water from the Missouri River to almost 30,000 people. As the Administration's request states, the FY 1990 appropriation will provide the funding to finish the construction of the project. Unfortunately, the Administration's request of $14,301,000 does not properly index the costs of the project. The Bureau of Reclamation has verified that the actual amount necessary to complete the project is $15.9 million.

Completion of the WEB pipeline represents a milestone for eastern South Dakota. People who have suffered from contaminated and unpredictable water for decades will be able to enjoy the clean and reliable water so many of us take for granted. The people of South Dakota and I thank the Subcommittee for its long-term support of the WEB project.

Mni Wiconi Rural Water Pipeline

The Mni Wiconi Rural Water Pipeline is a drinking water pipeline authorized by P.L. 100-516. In authorizing the project, the Congress recognized the desperate water problems plaguing western South Dakota, problems that are clearly laid out in the testimony of the project sponsors. Furthermore, Congress and President Reagan recognized the importance of solving these problems through the creation of a pipeline.

The authorization of the Mni Wiconi Project was characterized by consensus -- Republicans and Democrats, Indians and non-Indians, state, local and federal governments, environmentalists and power interests -- all working together to achieve the common goal of obtaining clean water for the Lyman-Jones and West River water districts, and for the Pine Ridge Indian Reservation. Mni Wiconi is a water project in the tradition of the WEB pipeline, where real water needs are addressed permanently in an environmentally-benign project.

Given the broad support and overwhelming demonstration of need for the project, I find the Administration's attempt to kill the project by not funding it totally unacceptable. I am keenly aware of the budget problems facing the country, but I am also keenly aware of the health, societal and economic problems facing the Pine Ridge Indian Reservation, and the Lyman-Jones and West River areas. These concerns cannot wait for rosier economic times.

No project is more important for South Dakota than the Mni Wiconi Rural Water Pipeline. I strongly urge the Committee to appropriate $5.5 million within the Bureau of Reclamation budget to commence construction on this critical project.

Belle Fourche Irrigation Project

The Belle Fourche Irrigation Project was originally authorized by Congress in 1904, and completed in 1914, providing irrigation to more than 51,000 acres. The project was one of the first Bureau of Reclamation projects in the country, and was recently recognized as a National Engineering Landmark. The project was reauthorized in 1983, and the current work involves rehabilitating and improving many aspects of the project in order to achieve better efficiency and conservation.

The Belle Fourche project continues to be the backbone of the local economy, and the state and local sponsors have been generous in their financial support of the project. I commend the Administration for its request within its Bureau of Reclamation budget of $6,765,000 for the needed rehabilitation work, and I hope the Committee will support this request.

Lake Herman Restoration Project

The Lake Herman Restoration Project involves dredging silt from Lake Herman, a 1,350 acre lake west of Madison, South Dakota. The Lake Herman project has been underway since 1981, with the original work aimed at stabilizing shorebanks and other conservation activities, as well as addressing non-point pollution concerns (with the help of EPA funding). The next, and last, necessary phase of the project is removing the accumulated silt from the lake for recreation, water quality, and fish and wildlife enhancement. The 1986 Omnibus Water Resources Act (P.L. 99-662) authorized $5 million for the restoration of Lake Herman.

Dredging work began in 1985, but was seriously hampered when the Administration chose not to fund the project in its FY 1988 and 1989 budgets. Once again, no federal funding is proposed for the project. Yet, the need still exists, the construction infrastructure (including contracts and machinery) is in place, and local interests are extremely anxious to finish the project. I urge the Committee to appropriate, in the Corps budget, $125,000 for this needed work. With a similar appropriation next year, the restoration work at Lake Herman could be completed.

James River Restoration Project

The James River Restoration Project was authorized by Congress in 1986 (P.L. 99-662), and the current funding request by the Administration of $175,000 will allow the Corps to complete the feasibility study on the project. I strongly support the Administration's request, and hope that the Committee will as well.

The funding request by the sponsors provides the Committee with detailed information on the nature of the project, and I will not repeat it here. In short, the project is a restoration and improvement effort, aimed at cleaning the river for improved recreation, water quality, and stream flows. Some stabilization work is required, recreation access needs to be improved, and fish and wildlife habitat will be enhanced. The project enjoys overwhelming local support -- not a small feat considering the turbulent history of water development in the area.

Missouri River National Recreation River

Ongoing work along the Missouri River between the Gavins Point Dam in South Dakota and Ponco State Park in Nebraska requires federal funding. This 59-mile stretch of river is the only segment of the River south of Gavins Point that is neither channelized for navigation nor inundated by dam. The force of the Missouri can wreak havoc on the streambanks along this stretch, destroying property and sending silt to downstream reservoirs.

The Administration has requested $620,000 for the Corps under authorities granted in the Sec. 707 of P.L. 95-625, which authorized the Missouri River National Recreation Area. The funding is primarily for needed riverfront development facilities in Yankton, South Dakota. Unbudgeted are the basic operation and maintenance needs of projects already completed along the river, and no money is made available for new construction or stabilization activities. The Corps often claims that the agency lacks the necessary authority for stabilization work along the river. I do not agree. Authority appears to exist in both the enabling legislation and in the Water Resources Development Act of 1988 (P.L. 100-676). In my communications with the Corps, I have been advised that all they lack is an adequate appropriation.

Therefore, I respectfully request that the Committee appropriate $1.2 million, of which $620,000 will be for the purposes stated by the Administration, $200,000 for operation and maintenance, and the remaining $380,000 for stabilization work.

Watertown Dams

The purpose of the Administration request is to secure continued funding ($175,000) for completion of the feasibility study of constructing a dam on the Big Sioux River near Watertown in northeastern South Dakota. The purpose of the dam would provide flood control for Watertown, Lake Kampeska, and Pelican Lake. The feasibility study will be completed in January, 1991, given sufficient funding.

I strongly support the Administration request of $175,000 for the Corps to complete the feasibility study.

Vermillion Basin Flood Control

Flooding in the Vermillion basin has become very severe in the last 30-40 years, at least partially due to large-scale drainage of wetlands in the river uplands, which tends to reduce filtration and increase runoff. Recognizing the seriousness of this problem, in 1988 the State of South Dakota provided $50,000 to begin work on a reconnaissance and feasibility study of the Vermillion River Basin.

Requests for federal funding for FY 1989 were denied last year. I make this modest request again. I ask that $200,000 be made available to the Corps to perform the necessary technical work to address this pressing water problem.

Sioux Falls Flood Control

Sioux Falls is the most populous part of South Dakota, and has always been subject to flooding by the Big Sioux River. While a feasibility report was completed in 1965, the Corps acknowledges that the report is no longer adequate to address the city's needs. In recognition of this, the agency

received $125,000 in FY 1989, and the Administration has requested $89,000 for FY 1990. I support this request, and ask the Committee to fund it fully.

Upper Missouri River Archaeology

In 1988, the Corps announced that it was eliminating its two archaeologist positions within the Omaha Division. The positions were responsible for documenting and protecting the cultural resources along the upper Missouri River in South Dakota and North Dakota.

The archaeological resources of the Missouri River represent a truly fragile and non-renewable resource. Vandalism, scavenging, and other human intrusions are threatening many sites. The situation is extremely critical now because low water levels on the river have exposed many new sites, which are often destroyed before they can even be documented, much less protected.

In response to letters and personal inquiries I have made, the Corps acknowledges their lead responsibility regarding cultural resources in the region. The agency claims that the work that had been performed by the two discontinued positions will be assumed by other employees in Omaha. I find this completely unacceptable. The Omaha employees, while no doubt well-intentioned, have little to no experience in cultural resources management. Moreover, the field personnel in the division is already spread thin, and it is unrealistic to think that they can adequately monitor, document, and protect the cultural resources along 800 miles of river in South Dakota and North Dakota.

I respectfully ask the Committee to provide an additional $100,000 in the Omaha Division budget of the Corps for the express purpose of restoring the two archaeologist positions that have been eliminated by the agency.

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I want to thank the Committee for considering my requests, and for the strong support shown to South Dakota in the past. My staff and I are available to answer any questions you may have, or to provide any additional information you may require.

LETTER FROM GOV. GEORGE S. MICKELSON OF SOUTH DAKOTA

April 3, 1989

The Honorable J. Bennett Johnston
United States Senate
SH-136 Hart Senate Office Building
Washington, DC 20510-1802

Dear Senator Johnston:

I fully support the Mni Wiconi rural water system, and urge Congress to appropriate $5.6 million in fiscal year 1990 for project engineering and construction purposes.

Every citizen in this country has the right to an adequate supply of decent quality drinking water. Unfortunately, this is a right that has been denied to approximately 16,000 citizens within the proposed Mni Wiconi project area, including 10,000 Indians and 6,000 non-Indians.

We have the opportunity to move forward with the construction of the Mni Wiconi project, and we are committed to accomplishing this goal. I fully recognize the federal budget problem, and we are willing to meet our nonfederal cost sharing requirements. In fact, to demonstrate our commitment, I included $1.5 million in my budget for fiscal year 1990 as a first step toward meeting the cost sharing requirements outlined in the Mni Wiconi federal authorization legislation (P.L. 100-516). I am pleased to report that this request received overwhelming approval last month by the South Dakota State Legislature. We are also prepared to seek further state funding each year as federal funds are made available and construction of the project moves forward.

Domestic water supply is our number one priority in South Dakota, and the Mni Wiconi project is at the top of our construction priority list. A federal appropriation for this project will be used wisely and will provide substantial benefits to an area in much need of assistance.

Your support is greatly appreciated.

Very truly yours,

GEORGE S. MICKELSON

GARRISON DIVERSION PROJECT, NORTH DAKOTA

STATEMENT OF VERN FAHY, NORTH DAKOTA STATE ENGINEER

Senator BURDICK. Our next witness is Vern Fahy, who is speaking for the Governor today? The North Dakota witnesses will take seats at the witness table.

First of all, I would like to call on Mr. Vernon Fahy who has been a worker in the field of water and conservation in North Dakota for many, many years and it is a pleasure to introduce Mr. Fahy to the committee.

Mr. FAHY. Thank you, sir. My name is Vern Fahy, I am the North Dakota State engineer and I also serve as the chief engineer for the North Dakota State Water Commission, whose chairman is Gov. George Sinner.

Our legislature is still in session and it is wrestling with some very controversial issues which involve Governor Sinner's programs for the coming biennial. For that reason, the Governor has asked that I convey his thoughts concerning fiscal year 1990 appropriations.

Governor Sinner and Mr. Richter, chairman of the Garrison Diversion Conservancy District, have met several times in recent weeks to discuss this issue. Mr. Richter's statement very clearly articulates the sentiments of the Governor and the water interests throughout the State, but I would like emphasize one point made in that statement.

In 1944 our State agreed to give up over 500,000 acres of land on which to store water so that the States downstream would be protected from disastrous flooding. The reservoirs in our State—the Garrison and part of the Oahe and the other mainstream dams constructed as a result of the 1944 Flood Control Act have saved approximately $4 billion in flood damages.

Surely this kind of savings is in the national interest. In spite of all the agreement and harmony evident in 1944, our State has still not experienced significant benefits as a result of that bargain. Downstream States have been enjoying the benefits of the agreement for over 30 years.

Mr. Chairman, we are a small State, but our people suffer from lack of a stable economic base which could be developed if our project was allowed to proceed. Quality of life is no less important in my State than in others where the economy has been stimulated by Federal project expenditures. I urge you to examine the detailed statement submitted by Mr. Richter and if at all possible to support increased funding for this project. Thank you, sir.

Senator BURDICK. Thank you very much.

[The statement follows:]

STATEMENT OF VERN FAHY

My name is Vern Fahy. I am the North Dakota State Engineer and I also serve as Chief Engineer for the State Water Commission, which is chaired by Governor George Sinner.

Mr. Selberg has presented an excellent statement providing the details you should know in making judgements concerning flood control on the Sheyennne River in North Dakota. My statement is intended to support the position of the local citizens and officials in the West Fargo-Horace area and to express, on behalf of the Governor and the State Water Commission, strong support for this badly needed project.

Even as I write this statement flooding is occurring on some of the other tributaries to the Red River in stages that exceed historical flood records. It is too early to forecast the probably impacts on the Sheyenne River at West Fargo but citizens and officials are cognizant of the threat.

I won't go into detail concerning the costs to federal, local and state governments for flood prevention and flood recovery costs since 1950. It is sufficient to say that the cost-benefit ratio of 10 to 1 speaks eloquently to the need for the project and the savings that will accrue to all levels of government upon its completion.

Citizens in the area have wholeheartedly endorsed this project by agreeing to be taxed to pay approximately 40 percent of its costs. The local assessment districts are in place and the $2 million dollars pledged by the State of North Dakota is available.

Mr. Chairman and members of the Committee, this project is badly needed, its cost-benefit ratio of 10 to 1 surely must rank it at or near the top in the nation in terms of justification and it enjoys unanimous support from the Governor and the citizens of the area. I urge your favorable consideration of the appropriation for this project.

STATEMENT OF CHARLES A. RICHTER, CHAIRMAN, GARRISON DIVERSION CONSERVANCY DISTRICT

Senator BURDICK. I see Mr. Richter is also here, and I will hear from you, Mr. Richter.

Mr. RICHTER. Thank you, Senator and members of the Appropriation Committee. My name is Charles Richter, chairman of the Garrison Diversion Conservancy District in North Dakota. In the interests of time I will briefly summarize a few of the points from my written testimony that I have filed with the committee.

The 1944 Pick-Sloan Missouri Basin Act was driven by the need to provide downstream protection to the lower basin States following disastrous 1943 floods and to a lesser extent by a desire to provide navigation benefits to the lower basin States and power generation benefits to the States in the region.

North Dakota accepted the permanent flooding of 550,000 acres of rich bottom land for reservoir sites in order to provide these benefits to the lower basin States. The Indian reservation's damages were especially severe.

This sacrifice has cost North Dakota over $1.5 billion personal income in 1984 dollars since the dams were closed. North Dakota's principal benefit for agreeing to participate was the Federal statutory commitment to provide over 1 million acres of irrigation to stabilize the economy of this drought-torn State.

Since then, North Dakota has suffered through a long and continuing history of broken statutory commitments, contracts, and moral obligations. North Dakota waited 21 years before irrigation was actually authorized in 1965 and then it was reduced to 250,000 acres from the 1 million acres promised.

Since then, North Dakota has suffered through Presidential hit lists, Department of the Interior legal compromises which forced North Dakota to go to court to protect its rights, international joint commission studies, congressionally directed studies, and numerous lawsuits which were eventually won by North Dakota.

Finally in 1986, following the congressional mandated study, North Dakota most reluctantly accepted a scaled-down project provided only 130,000 acres of irrigation, but which contained a $200 million municipal, rural, and industrial water assistance program.

Both the Congress and the administration reaffirmed their support for the project in the passage and signing of the 1986 Garrison Reformulation Act. Such reaffirmation of support in meeting the statutory, contractual, and moral obligations would again be breached by the administration's budget, which provides only mothballing appropriations of $8.7 million for fiscal year 1990.

This will bring municipal and rural water programs to a complete halt, as well as a major contract for the construction of the New Rockford Canal with the result of millions of dollars in contractual damages paid to contractors with no gain to either the Federal Government or North Dakota.

We ask the Congress not to add to this litany of broken promises and commitments to North Dakota but to reaffirm the commitment of the Federal Government to its statutory and moral obligations by providing an appropriation of $48 million for the project in fiscal year 1990 in accordance with the attached budget.

Thank you for the opportunity to file my extensive testimony and to make these remarks to the committee.

Senator BURDICK. Thank you very much.

[The statement follows:]

STATEMENT OF CHARLES A. RICHTER

My name is Charles A. Richter, Chairman of the Garrison Diversion Conservancy District in North Dakota. I appreciate this opportunity to file a statement in support of adequate appropriations for the Garrison Diversion Project. I will summarize this statement in my verbal testimony before the Committee.

The 1944 Pick-Sloan Missouri Basin Program was driven by the need to provide downstream flood protection for the lower basin states following the disastrous 1943 floods. To a lesser extent, it was driven by the desire to provide navigation benefits to the lower Basin States and power generation benefits to all the states in the general region. North Dakota accepted the permanent flooding of 550,000 acres of rich river-bottom land as reservoir sites in order to provide these benefits for the lower Basin States. This sacrifice has cost North Dakota over $1.5 billion in lost personal income in 1984 dollars since the dams were closed. This is a huge loss for a small state of 652,000 population. North Dakota's benefit from participation in the program was the federal statutory commitment to provide slightly over one million acres of irrigation to stabilize the economy in this drought-prone state.

Because of the relatively high proportion of this flooded river-bottom land was found within two Indian reservations in North Dakota, the impact upon the Standing Rock Sioux Tribe and the Three Affiliated Tribes was especially severe.

The long history of delay of broken commitments on the part of the federal government under the 1944 Act is well-known. North Dakota waited 21 years after its passage before irrigation the 1944 Act promised was finally authorized in 1965. Even then it was for only a phase of 250,000 acres and not the one million acres committed in the 1944 Act. This was only the first of a long series of broken commitments.

Th project was included in a presidential "hit list" during the early 1970s, and the Department of Interior's support for the project then evaporated in spite of statuatory obligations and contracts with the State of North Dakota. Consequently, the project slowed to a halt. The Secretary of Interior subsequently compromised a lawsuit brought by an environmental organization by agreeing to halt the project. His decision was finally overturned by a Federal court decision in a lawsuit brought by the State of North Dakota.

Following a report by the International Joint Commission under the 1909 Boundary Waters Treaty, the federal government unilaterally agreed to suspend any activity leading to irrigation in the Hudson Bay watershed and after much negotiation finally agreed to proceed only with an 85,000-acre project portion that was entirely within the Missouri River watershed.

The United States House of Representatives, for four consecutive years in the early eighties, refused to pass an appropriation for the project in spite of the 1944 and 1965 laws and contracts with the State of North Dakota. This resulted in only minimal progress from the modest appropriations obtained through conference committee-type action.

In 1984, the project was stopped entirely while a congressionally mandated special commission studied the project and made recommendations for radical change. This resulted in a proposal for a further permanent reduction of irrigation acreage from 250,000 to 113,000 acres plus 17,000 on Indian reservations. In addition, the report would de-authorize several essential reservoirs and substitute costly and inefficient canals and water holding areas. This report again disregarded commitments of law and contracts with the State of North Dakota.

With the passage of the Garrison Diversion Unit Reformulation Act of 1986 and the recommitment of the Congress and the Administration to the project, it was hoped by North Dakota that finally, at least this smaller fraction of the 1944 promise would be kept by the federal governemnt.

This was not to be. In 1986 the Administration proposed an FY87 budget of only $2.5 million which would mothball the project. Congress, in part, amended this attempt to again break the new commitment through providing at least a modest appropriation of $35 million for FY87.

The Administration FY90 budget would again practically mothball the project. In spite of promises by the Secretary of Interior, that if modest appropriations were accepted for FY88 and FY89, that major appropriations would be available in 1990 and subsequent years. Again, this is another attempt to break the commitments and the 1986 reaffirmation of the federal government for even the reduced project.

North Dakota reluctantly accepted the radically scaled-down project in 1986 in part because of the inclusion of the $200 million Municipal, Rural, and Industrial water grant program and the provision of 100 cubic-feet per second of water to the Red River for municipal and industrial purposes in eastern North Dakota. The Administration proposed budget of $8.75 million would not only mothball the irrigation and facility portion of the project, but would bring the municipal and rural water programs to a complete halt in spite of the engineering work and the contracts that are outstanding. Termination of ongoing construction contracts would result in several millions of dollars in damage payments to contractors with no gain to either the federal government or North Dakota.

The Administration budget would provide no appreciable funds to meet municipal and rural water needs upon the Indian reservations as contemplated in the 1986 Reformulation Act when $20 million was authorized for this purpose, nor would it provide even the one million dollar initial irrigation appropriation as a down-payment upon the $67 million irrigation program authorized on Indian reservations in 1986.

We ask the Congress to not add to the litany of broken promises and commitments to the State of North Dakota but rather to reaffirm the commitment of the federal government to its statuatory and moral obligations by providing a reasonable level of appropriations for the Garrison Diversion Unit project in FY90. It may not be possible under the constrained fiscal situation of the federal government to provide the $70 to $80 million that the project should be receiving in FY90, but we strongly urge an appropriation of $48 million to at least in a minimal way meet the commitment that we so strongly feel exists.

STATEMENT OF EDWARD LONE FIGHT, CHAIRMAN, THREE AFFILIATED TRIBES, FORT BERTHOLD INDIAN RESERVATION

Senator BURDICK. Our next witness will be Mr. Ed Lone Fight. Welcome to the committee, Ed.

Mr. LONE FIGHT. Thank you, Senator. Good morning. Mr. Chairman and members of the Subcommittee on Energy and Water Development. My name is Edward Lone Fight. I am the chairman of the Three Affiliated Tribes of the Fort Berthold Indian Reservation. Thank you for the opportunity to testify before the subcommittee.

I am here to discuss appropriation levels for the Indian components of the Garrison diversion unit. I am speaking on behalf of the three Indian reservations impacted by the Garrison project: Fort Berthold, Fort Totten, and Standing Rock.

All three reservations continue to work together toward realizing benefits from Garrison. Chairman Murphy of the Standing Rock will address the subcommittee sometime later to discuss their projects as well as some additional concerns of the tribes participating in Garrison. Therefore, my testimony will emphasize activities on Fort Berthold and Fort Totten.

The Indian tribes and the State of North Dakota, with whom we have continued to work closely, are requesting a total appropriation of $48.15 million for Garrison in fiscal year 1990. Of this amount, $9.5 million would be earmarked for the Indian components of the project.

The tribes believe the Congress has a different obligation to fulfill when considering appropriations for the Indian projects. The tribes, particularly Fort Berthold, are the ones who sacrificed much of their land and a way of life for the Garrison Reservoir to be built. The tribes are now only asking for opportunities to rebuild components of their reservations and salvage a culture.

Congress recognized these needs and objectives in section 5 of the Garrison Diverson Unit Reformulation Act of 1986, which states the Secretary of the Interior is authorized and directed to construct, operate, and maintain such municipal, rural, and industrial water systems as he deems necessary to meet the economic, public health, and environmental needs of the Fort Berthold, Standing Rock, and Fort Totten Reservations.

To fulfill this directive, Congress authorized $20.5 million for MR&I projects on these three reservations. I hope this subcommittee and the entire Congress will continue to recognize the unique situations of the Indians when appropriating funds for fiscal year 1990.

The $9.5 million sought for Indian projects is a minimum. Each reservation has a capability to utilize a greater amount than their proportionate share of this figure. However, in an effort to stay within budgetary constraints, the tribes have reduced their requests.

On Fort Berthold, the funds will be utilized in four distinct projects which would provide quality drinking water to reservation residents. The Three Affiliated Tribes have worked closely with the Bureau of Reclamation in planning these projects. The projects' reports are now complete. Design and testing have begun and in fiscal year 1990 it will be time to build.

At Twin Buttes a new water treatment plant would be built and the intake structure renovated. The water treatment facility currently in operation is outdated and has numerous reliability problems. The system also has a difficult time providing water which meets the national primary standard of turbidity. In addition, the intake and access road to intake are in dire need of improvements. The cost of constructing a new treatment plant and improving the access road and intake structure is $600,000.

At Mandaree the problems are similar. The current water treatment is undersized, unreliable, and has difficulty meeting the national primary standard for turbidity. Here, the existing plant would be renovated and upgraded. The capacity and pressurization system would be improved so that all homes have fire protection. The road to the intake structure would be improved so that the intake is accessible all year. The cost of these improvements is $625,000.

At White Shield the Tribal Utilities Commission recently lost a lawsuit because of the poor quality of water supplied to the community. A rural water system has been proposed which would supply quality treated water to the area. In fiscal year 1990, at a minimum we desire to construct the intake structure and water treatment plant. The cost of these components is $1.3 million. If at all possible, we would like to construct the transmission facilities to serve the community of White Shield; the additional cost of transmission facilities is approximately $1.2 million.

The water system serving the community of Fort Berthold Reservation, they have been prioritized as phase I projects and I will not go into all the details of Fort Berthold.

Let me just skip over to Fort Totten. The Devils Lake Sioux are also working with the Bureau of Reclamation in their planning process to prioritize their overall needs to utilize $4.5 million to meet the tribe's most critical needs under a phase I project.

The Devils Lake Sioux Tribe have elected to contract the final planning, design and construction, and administration of services with private entities to allow the project to be expedited and available moneys to be spent as effectively as possible. The tribe's goal in phase I is to provide a safe, reliable potable water supply to the four primary Indian communities on Fort Totten.

The Devils Lake Sioux Tribe's final planning document will be developed by May 1989. The goals of the Devils Lake Sioux Tribe for fiscal year 1990 are to complete the final design for the entire phase I system and construct the key project facilities. Under the tribe's proposed schedule, approximately $2 million of fiscal 1990 funding is required to meet this goal. Please allow the tribe to meet this schedule by providing adequate funding for the Fort Totten MR&I program in fiscal year 1990.

The Devils Lake Sioux, like the Three Affiliated Tribes, want the opportunity to construct as much of their MR&I system in fiscal year 1990 as possible. I point this out because the $20.5 million authorized for Indian projects contained in the Garrison Diversion Reformulation Act of 1986 does not take into account consideration of the effect of inflation. If appropriations are slow in coming, we will not be able to anywhere near realize the degree of benefits which would accrue from the amount authorized. Also, in light of

the fact that the current authorization is insufficient to meet the MR&I needs of any of the three reservations, I would sincerely request that you reconsider the use of an inflation adjustment factor when considering appropriations for Garrison.

In summary, I ask that you consider my recommendations regarding appropriations for these projects in light of what I have suggested: that the Indian tribes try to rebuild reservations and preserve endangered cultures.

Thank you for your time and consideration.

Senator BURDICK. Thank you, Mr. Lone Fight. I see Senator Conrad has just entered the hearing room and I would like to call upon him to make a statement or ask any questions he would like to.

STATEMENT OF HON. KENT CONRAD, U.S. SENATOR FROM NORTH DAKOTA

Senator CONRAD. Mr. Chairman, if I might I have an opening statement that I would like to share with the subcommittee.

Senator BURDICK. Fine.

Senator CONRAD. Mr. Chairman, members of the committee, thank you for this opportunity to appear.

In his inaugural address President Bush said that great nations, like great men, must keep their word. When America says something, America means it, whether a treaty, or an agreement, or a vow made on marble steps. The President's statement was welcome and worthy. It is applicable, in my judgment, to the Garrison diversion water project in North Dakota.

As the members of this committee know so well, and especially our acting chairman, my colleague Senator Burdick, the State of North Dakota inundated over 500,000 acres of valuable farmland to construct the reservoirs that provide flood control, river navigation, and municipal and industrial water for States in the lower basin of the Pick-Sloan project.

The Federal Government promised certain benefits in return, but the benefits have been slow to arrive. In seeking appropriations for the Garrison diversion water project, the people of North Dakota are simply asking that a great Nation keep its word.

The project today delivers water to less than 1 percent of the acreage originally identified for irrigation, and 36 years after completion of the Garrison Dam we appear before you seeking only modest funding to keep the project on track. The administration's recommended level of funding of less than $9 million for the project is wholly inadequate for that purpose. It is simply another breach of faith with the people of North Dakota.

After a long history of battles with the environmental interests and attempts by the executive branch to thwart the project through minimal funding, North Dakotans thought that the project would finally move toward a steady, if not rapid conclusion, after Congress adopted the Garrison Diversion Reformulation Act of 1986.

Each year since 1986, however, the administration has recommended minimal funding for the project. Thanks to the support of this committee and especially the active intervention of my senior colleague, Senator Burdick, and help from other Members of Con-

gress, we have been able to restore sufficient funds to move the project ahead.

Senator Burdick, as acting chairman I think at this point I should acknowledge the great assistance that we have received from our colleague, Senator Johnston, the chairman of this subcommittee. He has been a real ally in this fight year after year and we deeply appreciate it.

In view of the administration's recommendations of less than $9 million for the project in fiscal year 1990, the State must again seek this committee's help to restore adequate funding. This subcommittee has been very supportive of the needs of our State and I am hopeful that we will be able to count on you once again to assist us with water development in North Dakota.

If the recommendations of the administration are adopted, several consequences will result.

First, all municipal, rural, and industrial water projects would have to be postponed indefinitely.

Second, water projects to the State's Indian reservations would be stalled.

Third, the irrigation test site in Oakes, ND, would be terminated.

Fourth, work on the Southwest water pipeline would have to come to a halt.

Fifth, construction of the New Rockford Canal would stop and damages to the contractor for breach of contract could total millions of dollars.

Six, major irrigation features of the project would have to be postponed into the unforeseeable future in spite of the recent drought.

Seventh, critical municipal water for Fargo, Grand Forks, and other communities would be put on hold indefinitely.

Mr. Chairman, inadequate funding would have a serious impact on another goal that we share, and that is economic development in rural America. I am optimistic that Congress will enact major legislation this session that will stimulate economic development in rural areas. Our attempts to promote economic development will be much more difficult, however, if we do not ensure that rural regions have plentiful and reliable sources of water. Plentiful water is important to our personal health. We sometimes forget how important it is to our economic health. Water is particularly critical to native Americans living on the Fort Berthold, Standing Rock, and Fort Totten Indian Reservations in North Dakota. As the Joint Tribal Advisory Committee recognized in its report to Congress in 1986, the tribes bore a heavy share of the burden under the Pick-Sloan Missouri basin project. They are now anxious to provide economic development for their people and water supplies are vital to that goal.

In short, Mr. Chairman, completion of the Garrison diversion project is not only a commitment that the Federal Government has said it will honor, it is a project that is vital to the economic strength of our State. Again, I want to thank and publicly commend my senior colleague, Senator Burdick. He has been a lion for this project throughout its history. We would not have a project without Senator Burdick. We are all deeply indebted to the leadership that he has provided.

Thank you very much, Mr. Chairman, for this time.

PREPARED STATEMENT FOR THE RECORD

Senator BURDICK. Thank you, Kent, for those kind words.

We also have a statement from the Standing Rock Sioux Tribe which I will put in the record.

[The statement follows:]

STATEMENT OF CHARLES W. MURPHY, CHAIRMAN, STANDING ROCK SIOUX TRIBE

INTRODUCTION

The Garrison Reformulation Act of 1986 (P.L. 99-294, 100 Stat. 418) authorized for our reservation the first phase of a municipal, rural and industrial (M, R & I) water system, and irrigation for 2,380 acres. After considerable negotiations with the Bureau of Reclamation, 638 contracts and a scope of work were developed. The Tribe began work on the M, R & I system late February, 1988, and on the irrigation project in August.

Progress on both projects has been substantial. We have completed the Plan Formulation for our water system, and shall soon begin the Final Design. We have developed the Standards and Criteria for our irrigation project, and have already begun the Final Investigations. With adequate funding in Fiscal Year 1990, we shall complete the planning and begin construction on both projects.

The Tribe has determined that $5 million is needed in Fiscal Year 1990 to complete the planning and begin construction on these projects. For the M, R & I, $2,750,000 is needed for the Final Design and construction of pipelines to provide drinking water to the communities of Cannon Ball and Porcupine. Health officials have found drinking water quality at certain residences in both communities to be unsuitable. For our irrigation project, $2,250,000 is needed for the Final Investigations and to begin construction.

We understand that we are competing with other needed projects for funding. This reminds me of a statement made by Peterson Zah, the former chairman of the Navajo Nation, to a conference sponsored by the American Indian Lawyer Training Program, in November, 1984. Chairman Zah explained that "Our recommendation is that the United States recognize and meet its moral and legal obligations to provide sufficient water for both our present and future needs and fund our water development projects to meet those needs, so that some day-50 years, 100 years from now-our lands will have received water development projects and subsidies equal to those given the non-Indian westerners over the past 100 years."

Again, we understand that there are severe budgetary constraints on your ability to finance the water development needs of the Indian people. Nevertheless, in opening my remarks, I want to remind you that there has been a long history of federal subsidies for non-Indian water projects. It is only recently that Tribes have been included in major water projects, such as the Garrison Reformulation. It is important that recently commenced Indian water projects not be mothballed, as the administration proposes for ours, but that Indian water rights be protected by being put to use on the reservations, for the benefit of the Indian people.

STANDING ROCK M, R & I

Standing Rock M, R & I Pursuant to Public Law 99-294 The availability of a plentiful and high quality water supply is vital to the survival of the people of our Tribe. The Garrison Diversion Unit Reformulation Act of 1986 provides specifically for M, R & I on the Standing Rock and other Indian Reservations and authorizes $20.5 million for Indian M, R & I projects. Funding for the full project needs, described below, will be sought through new or expanded Congressional authorization.

Water is the key to increasing the quality of life and promoting full economic development on the Standing Rock Indian Reservation. The level of

health and the quality of life of our people are related to the quality of the domestic water supply. The Final Report of the Garrison Unit Joint Tribal Advisory Committee, a non-partisan committee appointed by the Secretary of the Interior, found that "problems with water quality and inadequate supply are common throughout the (Standing Rock) reservation and have a detrimental effect on health and quality of life as well as deterring economic growth."

Many residents now depend on poorly constructed or low capacity individual wells or have water hauled to underground cisterns. These sources are often contaminated with bacteria or undesirable minerals, provide an inadequate quantity of water and are costly to maintain and operate. For hundreds of families, this situation has caused immeasurable difficulties. Many parents are concerned with the long-range health effects of the drinking water on their children.

The community of Cannon Ball relies on a single well, 252 feet deep. Problems associated with this supply include frequent service interruptions and water quality problems from high iron and manganese, bacteria and sulphate levels. The well has difficulty producing enough water to meet even the average daily needs of the community. When demands exceed the amount the well can produce or if mechanical failure of the pump or motor occurs, a service outage results, leaving the community without water for consumptive use or sanitation needs. These factors combine to produce a potential for a widespread and severe outbreak of water-bourne disease in the community. The problems associated with Cannon Ball's supply are typical for Porcupine and other reservation communities.

Agriculture is the primary industry on the reservation, and the key to the full development of this industry is water. Livestock water is now obtained from individual wells, small streams, lakes, stock dams or dug-outs. During drought periods these sources often dry up and livestock must be sold or moved off the reservation.

Deep groundwater, while more plentiful, is highly mineralized and of poor quality. As a result, the grazing lands can not be fully utilized and a valuable resource is wasted. The lack of stability in the production of feeder cattle also discourages related industrial development, such as packing plants, cattle feeding and canneries.

Project Planning Public Law 99-294 directs the Secretary of the Interior to plan and construct a multi-purpose water project on the Standing Rock Indian Reservation. This system shall provide water for domestic, agriculture, livestock, industrial, fish and wildlife, recreation and other purposes. To carry out this directive, we have completed a comprehensive study of the reservation-wide M,R & I needs. We developed a Plan Formulation Report, which is in the final review and approval stages. Our plan recommends the construction of a reservation-wide water system, to deliver treated Oahe Reservoir water throughout the reservation from a diversion point near Fort Yates, the Standing Rock agency. This system is designed to meet the present and future M,R & I needs of both the Indian and non-Indian people living on our reservation. The projected cost of this system is $ 77.2 million.

The project shall deliver about 3.2 million gallons per day of treated Oahe Reservoir water throughout the reservation. It will require about 2,700 miles of pipe, 6 booster stations, 9 water storage reservoirs and an intake and water treatment plant. It will serve 8 Indian and 5 non-Indian communities and nearly 2 million acres of rangeland. In addition, 360,000 gallons of water shall be made available for projected industrial needs.

Project Capabilities in Fiscal Year 1990 The Plan Formulation Report outlines a multi-year construction program, with the current authorization in P.L. 99-294 as the first phase. With adequate funding in Fiscal Year 1990, we shall complete phase one, the Cannon Ball and Porcupine pipelines, next year. A specific project report is now being completed for this project, with construction planned immediately thereafter.

Funding through Fiscal Year 1989 completed the planning efforts for the overall system, and for service to Cannon Ball and Porcupine. The objective for the next fiscal year is to complete construction of this project, and complete the planning, acquisition of rights of way, and design for service to ranches and rangelands in the Cannon Ball subsystem. We shall need $2,750,000 in Fiscal Year 1990 to complete these tasks.

This funding shall be utilized as follows:

Service to Cannon Ball	$1,225,000
Service to Porcupine	$1,300,000
Planning, right of way and design for balance of phase one	$ 225,000
TOTAL FY 90 NEEDS	$2,750,000

Local Support It is noteworthy that, throughout the planning stage of this project, the Tribe has received the support of our reservation's District Councils, our members generally, local non-Indian municipalities and the county governments, and non-Indian water users, whose long felt need for a project such as this led to the formation of the State Line Rural Water System, a civic group. The Bureau of Indian Affairs (BIA) and Indian Health Service (IHS) have also expressed support for our efforts. Letters and resolutions of support are available.

STANDING ROCK IRRIGATION UNDER P.L.99-294

Standing Rock Irrigation Pursuant to Public Law 99-294 Public Law 99-294 provides Congressional authorization for the development of 2,380 acres of new irrigation on the Standing Rock Indian Reservation, and authorizes expenditures of $67.9 million for planning, design and construction of irrigation facilities for Standing Rock and Fort Berthold. Financial planning by the Bureau of Reclamation (USBR) in 1988 allocated $12.57 million of the $67.9 million to Standing Rock. The administration's budget proposal for Fiscal Year 1990 contains no funding, although we have progressed significantly on the project with Fiscal Year 1989 funding.

In August, 1987, the Tribe began developing a cooperative agreement between the BIA, USBR and the Tribe to implement the Indian irrigation and M,R & I provisions of the Act. It took considerable negotiations to implement 638 contracts and develop a scope of work. The Tribe was not authorized to proceed on the irrigation project until August, 1988.

Since then, we have progressed substantially in the planning investigations. Public meetings were held on our reservation throughout October and November, 1988. A preliminary report identifying the alternatives for development of the 2,380 acres was concluded November 29, 1988 (revised December 21) and submitted to USBR. Reclamation proceeded with technical review of our initial planning efforts and recently provided the Tribe with their comments on our preliminary plan. Along with their comments, they provided authorization to proceed with more detailed planning, in late February, 1989.

Project Capabilities in Fiscal Year 1990 Fiscal Year 1989 appropriations were adequate to proceed with the preliminary planning, including hydrological analyses, sizing analysis for the irrigation facilities, design and cost estimates, environmental and archaeological assessments, irrigability studies, drainage analyses and evaluating altrenatives. The funds are administered by the Bureau of Reclamation and BIA for these initial efforts.

During Fiscal Year 1990, the Tribe will be capable of concluding Final Design and proceeding with the first phases of construction. The Tribe will be capable of expending approximately $2,250,000 in Fiscal Year 1990 for design and construction.The Bureau of Reclamation does not dispute our capability to expend the $2 million that we are requesting for our irrigation project in Fiscal Year 1990, for the purposes just stated.

Local Support There has been considerable local support by our members for our irrigation project. Perhaps this is due in part to the fact that we have lost most of the Indian agricultural base on our reservation, since our fertile lands-the Missouri bottomlands- were flooded by the Oahe reservoir. Although we contributed our best agricultural lands so the project could be constructed, there has been minimal federal investment since that time in our agricultural sector.

Our irrigation project under P.L. 99-294 is an important step for our redevelopment efforts in the area of agriculture. We believe that this development, although only a first step, is very important to our future. Thus, we feel very strongly that the administration proposal that no funds be allocated for the project in Fiscal Year 1990 is unfair and shortsighted. We urge your serious consideration of the budget request for P.L.99-294 projects.

CONCLUSION

In closing, it is noteworthy that we have received support for our budget from North Dakota's Governor Sinner, and the Three Affiliated Tribes of Fort Berthold and the Devils Lake Sioux. Both the state and other North Dakota Tribes participate in the Garrison projects. We have worked together and supported one another's projects. Recently, we all agreed to support an overall Garrison budget of $60,000,000, with $12,000,000 to be allocated to the Indian projects. We agreed with the other Tribes that Standing Rock's share of the $12 million shall be $5 million.

Of course, you may not be able to fulfill the entire Garrison budget request. In that case, we must compete with the non-Indian components of the Garrison project. We are concerned that the Indian projects budget may bear the brunt of the reductions, because the non-Indian projects have outstanding construction contracts. Therefore, I petition the Committee to ensure that if the Garrison budget is to be reduced from the $60 million we have proposed with the state and other Tribes, that the reductions in the Indian and non-Indian project budgets be proportional. This would ensure that the Tribes do not suffer simply because the state projects are farther along-because Congress has financed non-Indian water development for so much longer than Indian water projects.

Again, I appreciate your favorable consideration, and your concern for the issues which I have raised.

SHEYENNE RIVER, ND, FLOOD PROTECTION PROJECT

PREPARED STATEMENT SUBMITTED FOR THE RECORD

Senator BURDICK. At this time, I ask unanimous consent that several statements submitted by the Southeast Cass Water Resource District be entered into the record. Their testimony pertains to a flood control project on the Sheyenne River in North Dakota.

[The statements follow:]

STATEMENT OF FRED SELBERG, CHAIRMAN, SOUTHEAST CASS WATER RESOURCE DISTRICT

My name is Fred Selberg. I am the Chairman of the Southeast Cass Water Resource District, Cass County, North Dakota. The Water Resource District is the local sponsor for both projects on the Sheyenne River.

The Sheyenne River, as it flows through Cass County into the Red River of the North, is a perched river. In other words, it is above the floodplain. The banks of the Sheyenne River through West Fargo are approximately 6 feet higher than the main portion of the City. If over-bank flooding occurs, the main portions of the City of West Fargo will be inundated with several feet of water causing millions of dollars of damage. The loss of life is certainly a distinct possibility. Economic development has been severely restricted.

The Sheyenne River has been flooding in the West Fargo area since 1942, causing millions of dollars of damage. The Corps of Engineers has been actively seeking a solution to the problem since being directed by the Congress in 1950 to study the flooding problems on the Red River of the North and its tributaries. The Water Resource District was organized in 1961, with its main purpose being to control the flooding on the Sheyenne River. In 1970 Congress authorized the Corps of Engineers recommended Kindred Dam project for flood control on the Sheyenne River. Shortly thereafter, however, environmental legislation made it necessary to restudy the project because of environmental concerns. In 1986 Congress authorized the West Fargo-Riverside flood control project and the Horace to West Fargo flood control project on the Sheyenne River to control flooding, which are two components of the revised flood control plan and which projects do not have any environmental concerns. In 1988 the West Fargo-Riverside flood control project was recommended to Congress by the Corps and the President for a new construction start, together with five other projects in the

United States. Congress did not fund any new starts during the 1988 session, although it appropriated additional funds for the project and the Horace to West Fargo project for construction planning. The Corps of Engineers and the President have now recommended a new construction start for both projects. We sincerely request a favorable response by your committee. Both new starts are extremely necessary to our community and the State of North Dakota.

There are many good reasons that these projects should proceed in addition to the fact that the communities have been working toward a solution for approximately 40 years. Some of the reasons regarding the West Fargo-Riverside project are as follows:

1. The benefit cost ratio is 9.9 to 1. Can you think of any investment the United States of America can make that would have a better return for its money?

2. The local non-federal share nears 40% of the total cost. The purpose of the 1986 Omnibus Water Bill was to encourage the substantial financial involvement of the local entity. Our project is a good example of how the federal government should involve the local government and people.

3. The project has a local approval ratio of 99.9+% approval. Out of over 5,000 property owners, we received 3 protests in a very highly publicized and media-covered event.

4. The project has no environmental concerns.

5. The State of North Dakota, through its legislature and administrative offices, has pledged two million dollars to help the local property owners, which is presently being held in a trust fund for our use. We have no guarantee that those funds will continue to be available for us if Congress does not fund the project this year.

6. The North Dakota Highway Department has cooperated with our efforts and has delayed much needed road construction in the area until we build the bridges over the diversion project. This will save approximately one and a half million dollars. The Highway Department cannot further delay this improvement. It is our understanding that they will be awarding contracts this fall for construction in the spring of 1990. Failure to fund this project by Congress this year could result in complete governmental duplication. If the Highway Department completes their work prior to funding of this project by Congress, we will be required to tear up their work and redo it.

7. The Water Resource District has expended approximately $380,000 on this project to date. The State of North Dakota, for its share under our contract with it, has

reimbursed us in the approximate sum of $57,000. Expenditures will continue through the summer, with total expenditures by fall expected to be near one-half million dollars. These costs include, among others, negotiations with landowners, acquisition of options for rights of way, preparation of engineering plans and specifications which are part of the nonfederal share of the project, establishment of the improvement district for payment of local share through special assessments, coordination with other federal and state agencies, public hearings, meetings and generally required activities as the local sponsoring agency. These costs are all incurred in order to meet Corps of Engineers' requirements and deadlines under our signed Local Cooperation Agreement. Further delay of the project would be a financial disaster for our local Water Resource District. These expenditures represent virtually 100% of all of the income for the District for a two-year period.

8. This is the only project of the 11 that have been recommended by the Corps of Engineers which has a signed Local Cooperation Agreement.

We have worked with the water community in the State of North Dakota for the last 25 years. The North Dakota water community has been extremely supportive of our project and would be very disappointed if a project of this magnitude and benefit cannot be completed. It would not bode well for future water projects in the State of North Dakota if a project this good cannot receive federal support.

The eleven new starts recommended by the President in his 1989 budget are the fruits of a compromise regarding water policy reached between the Executive Branch and Congress over the last five years. The 1986 Water Resources Development Act stands as a shining example of how a difficult public policy issue can be resolved in a bipartisan way. The act has been called the most fundamental water reform legislation in half a century.

If the reforms of that act -- particularly the requirements for cost sharing by local project sponsors to secure construction of a water project -- are to have any meaning, they must be used and applied to new water projects. Failure to do so can only call into question the viability of those reforms. It is therefore our view that there is no higher priority in the civil works program of the Corps than these new starts. Whatever level of appropriations the Corps is ultimately provided by Congress can be drafted to accommodate them.

Last year the President recommended six projects, one of which was on the Sheyenne River. This year the President has recommended 11 projects, two of which are on the Sheyenne River. We are enclosing a resume of the 11 recommended new starts. We recognize that the best method of funding these projects is to fund all 11 of them. If Congress is of the opinion that it must make cuts in every area, we do not believe that new construction starts for water projects should be cut 100% again. If cuts are going to be made in the area of new starts for the Corps of Engineers, we suggest that cuts be made proportionately with other cuts made in other areas of the budget. We certainly don't believe that a project having a 9.9 to 1 benefit cost ratio should be cut. We think that if you check the benefit cost ratios on the rest of the projects, you will find that not only the West Fargo project has the best benefit cost ratio, but that the Horace to West Fargo project has a very respectable benefit cost ratio.

We are proud of both of these projects for which we are the local sponsors. We believe the West Fargo-Riverside project to be the number one project in the United States. The Horace to West Fargo project, which is really a part of the first project, is a very respectable project with an excellent benefit cost ratio. As far as our Water Resource District is concerned, we were 100% ready to go in 1988, and we are 100% ready to go on both projects in 1989. Our community has done absolutely everything that has been requested of us by the Corps of Engineers and the Federal Government. We have responded to the authorizing legislation of 1986 and have willingly put up almost $500,000 of local funds to be in a state of readiness for the Federal Government to fulfill its part of the bargain. Further delay would be unthinkable in our community because of the potential disaster that would result from flooding in the interim and the probability of an increase in cost to the local property owners of approximately 60% because of loss of state assistance and loss of savings resulting from coordination with the State Highway Department.

Our Board and our community are very enthused about the projects. We believe the Corps of Engineers has been very responsive to our needs and has very competently prepared a good plan with good communication with the State of North Dakota and the local community. We look forward to a continuing good working relationship with the Congress of the United States and the members of this committee.

Respectfully submitted this 12th day of April, 1989.

ELEVEN RECOMMENDED NEW STARTS

	Name	State	B/C Ratio	Cost
1.	Sheyenne (WF)	ND	9.9/1	$ 23,300,000
2.	Sims Bayou	TX	9.3/1	$ 135,000,000
3.	Nelsonville	OH	3.5/1	$ 10,200,000
4.	Winfield	WV	2.9/1	$ 195,000,000
5.	Point Marion	PA	2.6/1	$ 88,800,000
6.	Sheyenne (Horace)	ND	2.0/1	$ 7,600,000
	Lock Haven	PA	1.5/1	$ 81,600,000
	Non Connak	TN	1.5/1	$ 19,000,000
	Cache Creek	CA	1.5/1	$ 21,900,000
	Ramapo & Mahwah	NY	1.3/1	$ 8,200,000
	Santa Anna	CA	1.3/1	$1,382,000,000

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STATEMENT OF FLORENZ BJORNSON, PRESIDENT, BOARD OF CITY COMMISSIONERS, WEST FARGO, ND

My name is Florenz Bjornson, and I am the President of the Board of City Commissioners of the City of West Fargo, North Dakota. I am providing this written testimony to your committee in support of the West Fargo flood control project.

The West Fargo diversion project will provide flood protection to, and remove from the floodplain, the cities of West Fargo and Riverside, North Dakota, as well as some surrounding territory. I should note at this time that on July 1, 1989, the cities of West Fargo and Riverside will be consolidated into one city. Thus, my testimony is being presented on behalf of the citizens of both of those cities.

This flood control project is of utmost importance to the City of West Fargo. In fact, it is not an overstatement to say that the future of the City of West Fargo is dependent upon this project being constructed. In order for you to understand the importance of the project, it is necessary to give you some background information.

The City of West Fargo, like all significant cities in North Dakota, developed along a river long before anyone even thought of the concept of floodplain regulations. The city has now grown to be the ninth largest city in the State of North Dakota. However, the growth of West Fargo has slowed dramatically after the enactment of the federal floodplain regulations. As a result of the land being so flat, and the riverbank actually being higher than most property in the city, almost all of the city is located within the floodplain. Thus, unlike most cities, the residents of West Fargo do not have the option to simply build farther away from the river and outside the floodplain. This is made even more true in that West Fargo is bounded on the east by the largest city in North Dakota, Fargo. Thus, any future development in the City of West Fargo must, for the most part, occur within the floodplain.

That development has been stymied by the increased cost of construction to build above the floodplain, as well as the continuing cost of flood insurance premiums after construction.

The seriousness of this problem can be seen by the fact that much property in the City of West Fargo is being forfeited to the city by the property owners by their failure to pay taxes. Those people have simply determined that the property cannot be developed under the present conditions. The City of West Fargo expends more than $100,000 a year simply paying principal and interest on special assessments on the lots which have come back to the city. This stagnation in growth could be turned around immediately upon the construction of this project, which would take the entire city out of the floodplain and allow for orderly development to occur again.

The U.S. Corps of Engineers has determined that the West Fargo diversion project has a 9.9/1 benefit-cost ratio, the highest benefit-cost ratio of any of the proposed flood control projects in the country.

In determining that figure, the Corps of Engineers looks at the cost of potential property damage to city and private property, as well as costs incurred in fighting these floods on an ongoing basis. It should be noted that there has been serious flooding along the Sheyenne River in the West Fargo area in 1965, 1966, 1969, spring of 1975, summer of 1975, and 1979. After the 1979 flood, the Corps of Engineers determined that in West Fargo there was $892,000 of property damage caused by that flood. That figure does not include the significant costs incurred in fighting the flood. At that time the Corps also estimated that if the flood control effort had not been successful in containing the river, that there would have been $40 million of damage in West Fargo alone as a result of the 1979 flood.

The benefit-cost ratio, as high as it is, still does not truly reflect all of the benefits of this project. For example, each time there is a flood there is a risk to human life, as well as to

property. Unfortunately, in 1975 a resident of West Fargo died of injuries received while fighting the flood. Secondly, the benefit-cost ratio does not reflect the disruption caused to our community by these frequent floods. During these periods of floods, all city employees are diverted from their normal duties to the flood control effort. In addition, large numbers of the residents must also miss work or school in order to help in the flood control efforts. Thirdly, the benefit-cost ratio does not take into consideration the stagnation of development, as discussed above.

It is vitally important not only that the project be constructed, but that it be constructed as soon as possible. Each year that goes by there is a greater likelihood of property damage, loss of life as well as the continued stagnation of development in the area. At this time, as a matter of fact, the Governor of North Dakota has declared an emergency in eastern North Dakota as a result of flooding occurring in that part of the state this spring. In addition, if Congress does not appropriate funds for the construction of this project this year, it will be impossible to coordinate this project with the work the State Highway Department is doing on highway construction in the area. Building this project after that highway repair work is done would increase local cost by $1.5 million. Also, $2 million that the State of North Dakota has designated for paying local costs of the project will probably be lost if construction does not start in 1990.

The people in this area are overwhelmingly supportive of this project, which can be seen by the fact that out of 5,000 possible protests, only three were received. The residents of this area need the protection that this project will provide them. They also deserve to have construction on this project begin in 1990 so as not to unnecessarily increase the local cost burden of this project. I would therefore strongly urge the Congress to appropriate funds for this new construction start this year.

Respectfully submitted this 12th day of April, 1989.

STATEMENT OF BRAD JORDET, MAYOR, HORACE, ND

I am the Mayor of the City of Horace, North Dakota, and am providing this written testimony to your committee in support of the Sheyenne flood control projects in North Dakota.

The particular project which will benefit Horace, North Dakota, is the Horace to West Fargo diversion project. This project will connect to the West Fargo diversion project; thus, it is essential for our project to proceed, that the West Fargo diversion project also be constructed.

It is imperative to the citizens of Horace, North Dakota, as well as the residential developments between Horace and West Fargo, North Dakota, that Congress appropriate funds for the start of construction for the Horace to West Fargo diversion project this year. There are three main reasons why it is essential for the construction of this project to start as soon as possible.

First, each year construction is delayed is another year in which a potentially devastating flood could inflict severe damages to the City of Horace, as well as the property between Horace and West Fargo, North Dakota. The flooding along the Sheyenne River this year, as well as last year, clearly shows the risk facing this area due to flooding from the Sheyenne River every year. Last year, of course, was a major drought in this area. Last spring, despite what everyone thought were dry conditions in this area, the Sheyenne River reached almost record heights. This year, coming off the drought, and having a very slow runoff due to the abnormally cold temperatures, the river once again is well over flood stage. One can only imagine how severe the flooding would have been this year if we would have had a wet year last year, rather than a drought, and if we would have had a fast thaw this year. In addition, if there is a heavy rainfall in the next week to ten days, the Sheyenne River could rise to record heights with devastating results for the City of Horace and the people living between Horace and the City of West Fargo. Not only is there a

risk of major property damage, but anytime there is severe flooding there is always the risk to human life.

The second reason that it is imperative that Congress appropriate funds this year for the construction of this project is the fact that development in the City of Horace and north of the City of Horace is being stymied by the present conditions. Most of the city and the area between Horace and West Fargo are in the floodplain. As a result, construction costs are raised tremendously to raise the level of a building so as to be out of the floodplain. In addition, once the house is constructed, there is a continuing obligation to pay flood insurance premiums on that structure. The result has been that there has been very little development in this area recently. This situation is made even worse with this project pending. That is, persons who may develop the property know that once this project is constructed that they will be able to build structures without the added expense of raising them over the floodplain level. Thus, the developers are waiting for this project to be completed before they begin construction of any developments. This stagnation of development will remain until this project is constructed.

The third reason that it is imperative to construct this project as soon as possible is to keep the local costs as low as possible. Pursuant to the regulations now in place, the local residents must provide a significant portion of the funding for flood control projects. For the Horace diversion project the non-federal share is in excess of 34% of the total project costs. Each year the project is delayed, the costs will increase as a result of inflation. Furthermore, if this project is delayed, there is a risk that we will also lose state funding which the State Water Commission has tentatively agreed to provide for this project.

In conclusion, the Horace to West Fargo diversion project, which has a very favorable benefit-cost ratio of 2.0/1, should not be delayed another year. The local sponsor of the project,

Southeast Cass Water Resource District, and the United States Corps of Engineers, is in a position to start this project in 1990 if Congress appropriates funds in this year's budget for that construction start. For the reasons set out above, it would be terribly detrimental to the City of Horace and the surrounding area for Congress not to appropriate the funds for the new construction start of this project this year.

Respectfully submitted this 12th day of April, 1989.

Senator BURDICK. Now, before we conclude the North Dakota section, do any of the witnesses care to add anything to what they have already testified to?

[No responses.]

The next witness, then will be Larry Wilson, director of the Iowa Department of Natural Resources, Missouri River bank stabilization and navigation project mitigation.

Mr. Wilson.

MISSOURI AND UPPER MISSISSIPPI RIVER MITIGATION PROGRAMS

STATEMENT OF J. EDWARD BROWN, STATE WATER COORDINATOR, IOWA DEPARTMENT OF NATURAL RESOURCES

Mr. BROWN. Thank you, Mr. Chairman. I am J. Edward Brown and I am subbing for Mr. Wilson today. I would like to talk to you briefly about Missouri River mitigation. It seems like the testimony is going somewhat downhill today like the water in the basin and I am here on behalf of the State of Iowa. I am the State water coordinator with the Department of Natural Resources.

I believe you also have a letter from Governor Branstad of Iowa in support of the Missouri River mitigation project, and I had hoped that both that letter and my testimony would be inserted into the record.

Senator BURDICK. It will be received without objection.

[The statement follows:]

STATEMENT OF J. EDWARD BROWN

MISSOURI RIVER MITIGATION

The State of Iowa appears before this committee along with the States of Kansas, Missouri and Nebraska for the purpose of requesting that $3 million be appropriated to the budget of the U.S. Army Corps of Engineers for fiscal year 1990 in order to begin the process of mitigating the loss of fish and wildlife habitat along the Missouri River which resulted from the completion of the Missouri River Bank Stabilization and Navigation Project. The mitigation of habitat losses is required by the Federal Fish and Wildlife Coordination Act, and must be initiated quickly to reverse the inexorable progress of the effects of channelization on the few remaining wetlands and other critical areas.

Historically, and more importantly today as well, the Missouri is a national resource. The basin covers ten states. Its ability to support commerce, hydropower, irrigation and recreation has an impact on the entire nation.

Beginning in the year 1912, the United States government began to take an active role in the physical modification of the Missouri River to allow it to better serve the rapidly increasing base of commerce and population with the westward expansion of the nation. This development, though beneficial to local and national interests, was at the expense of the natural riverine habitat. Early efforts in support of navigation were consistent with the drive to industrialize and served the goals of the time. By the 1930's and 40's work on the River was focused on extending navigation up river to Sioux City, Iowa as well as the protection of downstream cities from the ravages of flooding. These new, more ambitious plans for the River carried an even greater price in terms of the loss of habitat.

In 1958, however, with the passage of PL 85-624, the Fish and Wildlife Coordination Act, there was a new mandate to recognize and to mitigate the losses of fish and wildlife habitat resulting from the construction of federal projects. By definition, the Missouri River Bank Stabilization and Navigation Project was covered by the Coordination Act and subject to its requirements. To satisfy this Congressional mandate, the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service assessed the losses and determined what action was necessary to mitigate the losses.

The U.S. Fish and Wildlife Service did an assessment of the amount of fish and wildlife habitat that had been destroyed by the Bank Stabilization and Navigation Project and identified mitigation needs. Briefly, the report found that "...channelization has influenced land use and consequently fish and wildlife resources on 1,800,000 acres or 95 percent of the flood plain." While these lands were put to a beneficial use, the drastic reduction of habitat along the Missouri River has taken its toll on the extent and diversity of both aquatic and terrestrial life. The Fish and Wildlife Service's mitigation plan would return many of the lost acres to productive habitat.

The U.S. Army Corps of Engineers completed their own assessment of mitigation needs based on the Service's report and recommended that approximately $50 million in mitigation projects would be appropriate. This plan was recognized by the Corps as satisfying only a small portion of the need, but the report suggested that it was a rational compromise. Based on the Corps report, Congress authorized $51.9 million in funding for mitigation projects on the Missouri River in Section 601 of PL 99-662, The Water Re-

sources Development Act of 1986. The authorization included funds to assess whether additional mitigation beyond that which the Corps had recommended might be appropriate. While the states took heart at this result, no action has followed. The Corps has made no proposal to initiate projects by seeking an appropriation even though mitigation is mandated in federal law, and substantial effort and time on the part of many state and federal agencies is wasted on preliminary work which needs to move ahead. The reports also expended considerable amounts of federal funds.

The lack of a request for an appropriation by the Corps of Engineers has driven the states to initiate their own. We come to the Congress united in our determination to have the federal government begin funding of a project which has been recognized as required under federal law. It would be inappropriate to end the process without any actual construction.

In the face of arguments that the work is of low priority, we suggest that as an integral and mandated element of a funded project, mitigation must be given the same priority as the original project. In addition it should be recalled that the degradation and destruction of habitat and the loss of fish and wildlife are not an issue of speculation. The federal reports themselves quantify the losses in detail. The impacts continue to evolve as the River seeks a state of equilibrium in the confines of its constricted channel. The forces created by the project have continued to lower the level of the river as the swift currents scour the channel. The result of this action is the drying up of wetlands and oxbows along the river as the groundwater level lowers with the river to which it is hydraulically connected. Plans for augmentation of water flow and the cutting of new channels into areas along the main channel to reconnect them to the River, would return some areas to useful habitat.

Each state is in a different circumstance in regard to their ability to designate a particular project with which to commence the mitigation program. The U.S. Fish and Wildlife Service has forwarded a supplement to the original mitigation report to the Corps of Engineers. In this supplement, the states have provided a brief outline of projects which would be typical of those which they believe would best satisfy mitigation needs in their area. Iowa's project is included in that report which is attached to this testimony. We could also offer a more complete list of projects which have already been identified as mitigation sites in Iowa. The exact nature and scope of the projects will be more well defined as the design of the projects is initiated. This first year's appropriation will provide the Corps of Engineers with the resources to scope and design a project in each state and to begin work on at least one of the project areas.

Mitigation of fish and wildlife losses due to project construction is not a unique circumstance. The requirement for mitigation in the 1958 Act means that current projects will automatically include this as a project element. The fact that the Bank Stabilization and Navigation Project was already underway at the time of the passage of the Fish and Wildlife Coordination Act does not alter its applicability. The law does apply and that has not been an issue. Given that circumstance, we would have expected this program to be a part of the Administration's budget request before now. In any event it is critical that the Congress recognize that its mandate for mitigation on this project must be heeded.

Finally, it should be noted that the request for fiscal year 1990 is $3 million. That amount is requested in order to satisfy several conditions. First, we recognize that the concern for the federal budget deficit. We believe that our proposal represents

a responsible first year request. Secondly, this request is based on the assumption that we will need several years of funding in order to initiate and complete projects. The experience of other similar programs would indicate that the first year will be largely a design effort with the earliest construction likely to be at best at the end of the funding year. If the Committee can not provide for additional funds for this project, we request that the project funding be accommodated within the total civil works budget for the Corps of Engineers. Our ultimate objective is to see the completion of at least the $51.9 million program which was authorized.

MISSISSIPPI RIVER ENVIRONMENTAL MANAGEMENT PROGRAM

The Upper Mississippi River System is a unique resource in that the multi-purpose nature of the river is both recognized and supported by active involvement of all parties. The Environmental Management Program represents a fine example of federal and state cooperation in the maintenance of habitat.

The U.S. Army Corps of Engineers has demonstrated its responsibility and flexibility in the development of a non-traditional role on the Mississippi River. After several years of effort, and the cooperation of the U.S. Fish and Wildlife Service and the states, the Environmental Management Program has resulted in the completion of several projects designed to maintain and enhance habitat in critical areas along the River.

The Environmental Management Program recognizes the need to maintain the resource values of the river in the same manner that physical structures such as locks and dams which receive regular repair and eventual replacement. The program should serve as a model for other river systems, and illustrates by its projects some of the similarities between construction activities needed to protect habitat and structures which the Corps has traditionally been associated with. Dams, levees, water diversion and control structures, as well as channelization and dredging can all be a part of a habitat restoration and enhancement project.

In Iowa we have proposed several projects under the Environmental Management Program. A project known as Brown's Lake may well typify this effort. Diversity of habitat is provided as dredging to provide deep water for wintering over of fish results in creation of mass producing woodland habitat by the use of the dredged material. Water control structures and levees provide for water movement through the area while protecting the project from the silt laden waters during times of high flow.

The Environmental Management Program authorized by Section 1103 of the Water Resources Development Act of 1986, has several elements including the habitat projects, long term resource monitoring, traffic monitoring and recreational components. The major emphasis has been and will continue to be on the construction of habitat projects.

Iowa continues to work on this important project in cooperation with the states of Illinois, Minnesota, Missouri and Wisconsin through the Upper Mississippi River Basin Association. In concert with them, Iowa continues to support this important resource management initiative and seeks the support of the Congress for the full authorized amount for this program. During the past few years, many projects have been designed. They are relatively small projects in the context of other Corps construction, ranging in cost from $200,000 to $6 million. Because of the time

that is required for the initiation of many smaller projects, it is critical that funding be made available now as they are ready for construction. The favorable bids which have been received also serve to support construction as soon as possible. To the extent that additional funds to meet the needs of this program are not available, we would ask that full funding be made available within the total civil works budget for the Corps of Engineers.

LETTER FROM GOV. TERRY E. BRANSTAD OF IOWA

March 28, 1989

The Honorable J. Bennett Johnston, Chairman
Energy and Water Development Subcommittee
Senate Appropriations Committee
SD-131 Dirksen Senate Office Building
Washington, D. C. 20510

Dear Senator Johnston:

The Missouri River is an important resource to the State of Iowa. In addition to the availability of large quantities of water for consumption, the River supports commerce and recreation. In the past, the Congress has authorized and funded construction of the Missouri River Bank Stabilization and Navigation Project. Under federal law, this project is subject to mitigation of fish and wildlife losses. While the project did receive an authorization in the 1986 Water Resources Development Act, there have been no appropriations to fund projects. In the meantime, the few remaining areas of wetland and fish and wildlife habitat continue to be adversely affected by the project.

I believe that Congress should fulfill the promise of mitigation which has been made to our state and the states of Kansas, Nebraska and Missouri. Together these four states have organized to request $3 million to begin projects in each of the states.

The Missouri is a national resource. The river basin encompasses ten states and its flow affects many more. The abundance of fish and wildlife which was, is reflected in a smaller and more tenuous population today. We must protect what remains for future generations. I urge you to support appropriations for this project.

Sincerely,

Terry E. Branstad

Terry E. Branstad
Governor

LETTER FROM JOE TIEGER, FIELD SUPERVISOR, FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR

February 6, 1989

Colonel John H. Atkinson
District Engineer
Kansas City District, Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106

Colonel Donald E. Hazen
District Engineer
Omaha District, Corps of Engineers
215 N. 17th Street
Omaha, Nebraska 68102-4978

Dear Colonels Atkinson and Hazen:

Enclosed is a report by the U.S. Fish and Wildlife Service under the authority of the Fish and Wildlife Coordinaton Act (16 U.S.C. et. seq.), which supplements a May, 1980 report for the Missouri River Stabilization and Navigation Project, Sioux City, Iowa to St. Louis, Missouri. The Iowa Department of Natural Resources, the Kansas Department of Wildlife and Parks, the Missouri Department of Conservation, and the Nebraska Game and Parks Commissibn have provided input to this supplemental report.

The 1980 Coordination Act Report described impacts and recommended restoration measures for losses and degradation of fish and wildlife habitat caused by the Missouri River Stabilization and Navigation Project. Areas which have potential for wildlife habitat restoration were identified by each state.

The Missouri River Mitigation Plan, as authorized by the Water Resources Development Act of 1986, identified 51.9 million dollars as first Federal cost. In addition the Act directed the Secretary of the Army to study the need for additional measures needed for the mitigation of losses of aquatic and terrestrial habitat caused by the project and submit a report to Congress before October 1989.

This supplemental report includes plans for initial projects for mitigation for fish and wildlife resource losses attributable to the project. Implementation of the supplemental report's proposals will include preliminary and final project design, land acquisition where appropriate, and construction. In addition to projects beyond the initial proposals, further effort will be directed in a report which addresses unmet needs beyond the authorization levels.

If you require additional information on these subjects, please feel free to call me at 314/875-5374.

Sincerely,

Joe Tieger

Joe Tieger
Field Supervisor

Supplemental Fish and Wildlife Coordination Act Report

Missouri River Stabilization and Navigation Project Habitat Restoration

January 1989

Summary Statement

This constitutes a report of the U.S. Fish and Wildlife Service (Service) under authority of the Fish and Wildlife Coordination Act (16 U.S.C. et. seq.), and supplements the May 30, 1980 report for the Missouri River Stabilization and Navigation Project (project). Initial proposals by the Iowa Department of Natural Resources, the Kansas Department of Wildlife and Parks, the Missouri Department of Conservation, and the Nebraska Game and Parks Commission (State agencies) to restore fish and wildlife habitats lost due to the construction of the project are provided. The Water Resources Development Act of 1986 (P.L. 99-662, November 17, 1986, Title VI, Section 601,(Act)) authorized $51,900,000 as the Federal cost for mitigation efforts to offset project impacts between Sioux City, Iowa and St. Louis, Missouri. The respective State agencies have assisted in the preparation of this supplemental report.

Project Proposals

Channelization of the Missouri River directly eliminated 100,200 acres of aquatic habitat and 374,300 acres of wetland and terrestrial habitat from the natural river and its active erosion zone in the reach from Sioux City, Iowa to St. Louis, Missouri. The habitat losses in relative proportion for each state are:

Iowa	12.5%
Kansas	10.5%
Missouri	58.4%
Nebraska	18.5%

The project, along with the flood protection provided by the mainstem and tributary reservoirs, has fostered agricultural, urban, and industrial encroachment on ninety-five percent of the floodplain.

The Corps of Engineers' Mitigation Plan, May, 1981, would restore and preserve 2,500 and 700 acres of aquatic habitat respectively. The plan also would preserve 28,000 acres of terrestrial habitat and develop 16,900 acres of public land. Restoration, under the Corps plan, represents only 4 percent of the habitat lost in the original floodplain. By comparison, the mitigation recommendation presented by the Service in 1980 called for the restoration or preservation of 40,414 acres of aquatic habitat and 149,899 acres of terrestrial habitat.

Enclosed are conceptual mitigation plans submitted by the State agencies. These plans are preliminary and are considered the first phase of the mitigation effort. While specifics, such as site location and design specifications,

are not included at this time, final plans would be similar to those described in the section of the Service's 1980 report entitled "Potential Fish and Wildlife Mitigation Areas and Project Modifications" (page 44). The Service will continue to participate in the planning of future mitigation projects. Total costs for the first phase of the mitigation plan for the States would be approximately $7,900,000.

Section 601(a)(1) of the Act provides for an additional effort to evaluate and plan for unmet mitigation needs of the Missouri River ecosystem. The State Agencies and the Service will submit a report on the unmet measures at a later date.

In summary, the supplemental report includes plans for initial projects for mitigation for fish and wildlife resource losses attributable to the project. Implementation of this supplemental report's proposals will include preliminary and final project design, land acquisition where appropriate, and construction. Current estimates for the proposed projects total $7,900,000. In addition to projects beyond the initial proposals, further effort will be directed toward a report which addresses unmet needs beyond the present authorization.

MISSOURI RIVER MITIGATION

IOWA SITE DEVELOPMENT PLAN

Background

The Water Resources Development Act of 1986 (P.L. 99-662) authorized mitigation for fish and wildlife losses due to Missouri River Bank Stabilization and Navigation Project at a total cost of $51.9 million. Iowa is cooperating with Kansas, Nebraska and Missouri in formulating a coordination approach.

Goal

Iowa's goal is to recreate a diversity of habitats that favor species that have been adversely impacted from modifications to the river by the bank stabilization and navigation project.

Objective

The specific objectives of this proposal are:

1. Provide a diversity of habitats for fish and wildlife.
2. Recreate wetland habitat.
3. Restore general backwater habitat in order to add diversity to the Missouri River ecosystem.

Project Proposal

This initial mitigation project would involve the Louisville Bend site in Monona County which is an area of 900 acres under state ownership.

Specifically, actions would include:

1. Retention of embankment parallel to the east bank of the Missouri River to protect the area from future floods on the

river and to retain water in the area - Estimated cost, $1,250,000.

2. Outlet water control structure - Estimated cost $150,000.

3. Dike and water control structure to create shallow water marsh conditions in the upper one-third of the area - Estimated cost, $250,000.

4. Pumping station of 20,000 gallons per minute capacity for water supply - Estimated cost $500,000.

5. Dredging for deep water development and water depth diversity and island construction - Estimated cost, $250,000.

6. Acquisition of adjacent high bank land for enhanced management, public access and recreation, approximately 200 acres - Estimated cost $200,000.

7. Public use facilities including boat ramp, dock and parking lot - Estimated cost $100,000

Total estimated cost $2,700,000.

MISSOURI RIVER MITIGATION

KANSAS SITE DEVELOPMENT PLAN

Background

The Water Resources Development Act of 1986 (P.L. 99-662) authorized mitigation for fish and wildlife losses due to the Missouri River Bank Stabilization and Navigation Project at a total cost of $51.9 million. As one of the four states of the lower Missouri River, Kansas is cooperating with Iowa, Nebraska and Missouri in formulating a coordinated approach. To this end, this document presents further refinement of developmental plans for an initial but mainly conceptual mitigation area.

Goal

Kansas' overall goal is to attempt to recreate slackwater habitat connected to the Missouri River so that species that favor this king of habitat and have been adversely impacted from modifications to the river may be benefited.

Objectives

The specific objectives of this proposal are:

1. Protect, manage and/or establish bottomland hardwood timber.

2. Provide slackwater and off-river spawning habitat for riverine species.

3. Create wetland habitat.

4. Restore general backwater habitat in order to add diversity to the Missouri River ecosystem.

Project Proposal

With the portion of the Missouri River bordering Kansas, this initial mitigation project would involve an area conducive to the development and management of marshland/hardwood forest complex which would satisfy the objectives. Since there are very few public lands available in Kansas to accomplish this, efforts would be directed towards acquisition of private lands on a willing seller basis. Specifically, actions would include:

1. Purchase of approximately 1,000 acres of river bottom. Estimated Cost: $1.5 Million @ $1,500 per acre.

2. Construction of water control structures across a main tributary near its mouth and in the bottomland area for purposes of providing a dependable water supply for a marsh. Estimated Cost: $400,000.

3. Pumping equipment with pump, pump engine and piping. Estimated Cost: $100,000.

Maximum projected costs for this site development: $2 million.

MISSOURI RIVER MITIGATION

MISSOURI SITE DEVELOPMENT PLAN

Project Authority

The Water Resources Development Act of 1986 (P.L. 99-662, November 17, 1986) authorized mitigation for fish and wildlife losses, Missouri River Stabilization and Navigation Project, at a total cost of $51,900,000. Construction is for projects from South Sioux City, Nebraska to St. Louis.

Goal

Restore and maintain wetland, aquatic and terrestrial habitat in the Missouri River ecosystem in accordance with the authorization provided, at 40-50 mile intervals along the river. These will provide habitat for wetland wildlife species and spawning areas for riverine aquatic organisms.

Objective

To partially accomplish the goal, the project described will be directed to the following objectives:

1. Re-establishment of bottomland hardwood timber.

2. Provide off-channel spawning for river species.

3. Create a moist soil management unit.

4. Restore backwater habitat diversity.

Project Proposal

The proposal is conceptual and subject to change during engineering and design.

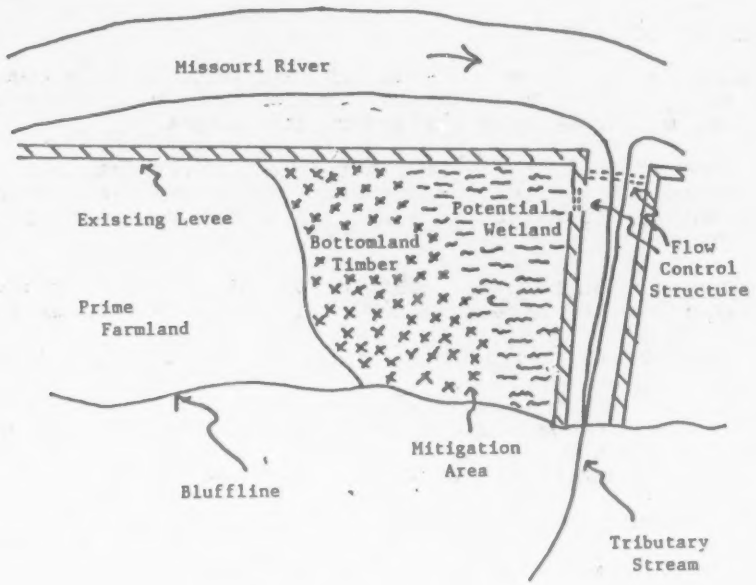
1. Purchase 500-1,000 leveed acres of river bottom from a willing seller, $1,000/acre.

2. Construct a water control structure across the tributary as a dependable water supply for the moist soil unit. Contract cost $500,000.

3. Construct a water control structure in the levee. Contract cost $100,000.

4. Raise the levee due to additional surcharge to the creek. Twenty percent of the actual cost of the water control structures. Maximum cost $120,000.

Conceptual Project Design



MISSOURI RIVER MITIGATION

NEBRASKA SITE PROPOSAL

WATER RESOURCES DEVELOPMENT ACT OF 1986

Project Authority

The Water Resources Development Act of 1986 (P.L. 99-662, November 17, 1986) authorized mitigation for fish and wildlife losses. Missouri River Bank Stabilization and Navigation Project, at a total cost of $51,900,000. Project location is between Sioux City, Iowa and St. Louis, Missouri.

Goal

Acquisition and restoration of a remnant right-bank Missouri River chute extending from the vicinity of River mile 556 downstream to vicinity of River mile 552. This chute is known to have been highly productive fish and wildlife habitat prior to channelization.

Objectives

1. Convert a largely floodplain cropland/cropland set-aside area to a mosaic of cover including natural floodplain woodland, grassland, emergent wetland, open sandbar and mud flat, shallow open water and flowing water.

2. Reestablish a flow regime through the chute backwater area. Flow rates and timing shall be controlled so as to be consistent with the flood control and navigation purposes of the project.

3. Artificially assist and guide secondary plant succession for reestablishment of desired plant community.

Proposed Actions

1. Land Acquisition: estimated cost $1,200,000. Acquire 1,000 to 1,200 acre site bounded on the east by the Missouri River and on the west by a flood control levee.

2. Construct Diversion Structure: estimated cost $100,000. Construct a diversion structure including the necessary controls to establish a desirable flow regime through the chute.

3. Obstruction Removal: estimated cost $50,000. Minimum construction necessary to initiate a flow through the chute.

4. Reestablish Flow Regime: operation cost. Initial flow should be high enough to create an active erosion zone within the chute. This flow should be maintained until backwater conditions are reestablished along the margins of the chute.

Minimum flows thereafter should be sufficient to maintain an interchange of fish, furbearers and organic matter between the reestablished chute and the channelized river.

5. Plant Cover Establishment/Weed Control: estimated cost $150,000.

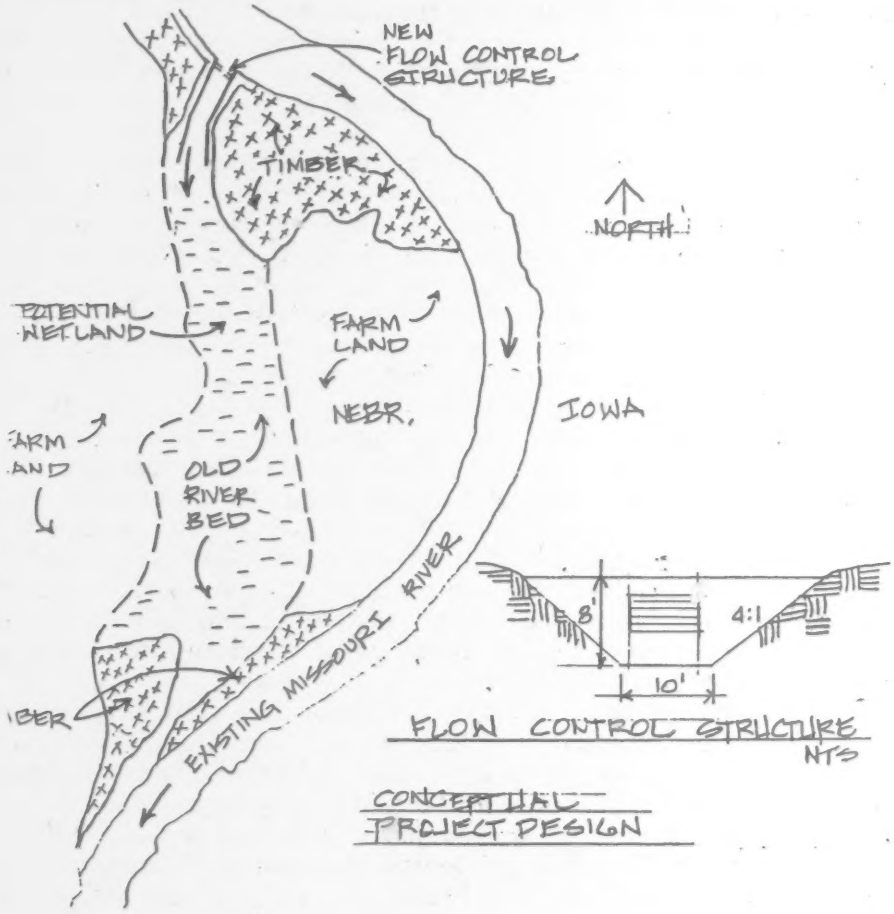
Total Cost $1,500,000

Discussion

The conceptual basis for the proposed project is that the Missouri River, its floodplain, tributary streams and drainage basin comprise one of the more diverse ecosystems in North America. Each of these components, especially the mainstem river and its floodplain, have undergone drastic changes since the middle 1800's. Under the diverse climatic, geologic and botanical conditions of the basin, a unique fauna has evolved. This fauna has largely persisted, although populations of some species are much lower than what existed before settlement and development of the Basin. Evidence exists that the trends in declining populations and number of species are continuing.

Any approach other than attempting to re-establish natural processes which formed the physical conditions under which the dynamic habitat conditions developed and existed should be viewed as experimental. This Project Proposal by the Nebraska Game and Parks Commission staff for construction in Nebraska was selected from a list of eight priority project sites recommended for early acquisition and construction.

This preferred option is a site located in the Nemaha Natural Resources District in Otoe County. It is recommended as the first year start for two reasons. First, land rights may be less difficult to acquire. Most, if not all, of the lands needed for the project are in a single ownership. In addition, the site represents less of a design and construction challenge so as to have the potential to demonstrate fish and wildlife benefits sooner. In the event land rights for the project cannot be acquired on a willing seller basis, acquisition and development of the Middle Decatur Bend, Bullard Bend or Boyer chute sites should be investigated.



Missouri River Fish and Wildlife Mitigation

Mr. Brown. From the standpoint of our request today, in particular on the mitigation of fish and wildlife losses on the Missouri River, I would like to try to give you a brief thought on the nature of that project.

Basically, before we began the Missouri River bank stabilization and navigation efforts, the Missouri in our part of the country was really a wide expanse of river going through a flood plain about a mile wide, with the result that the area was teeming with wildlife and had a diversity of habitat that was certainly something that was of value, more so realized now than in the past.

At the time, we needed to have the river for commerce, the population was demanding protection from floods, and the loser was probably the river. The Corps of Engineers in their project did the work very skillfully.

As a result, however, the islands, the sandbars, and the side channels were eliminated and nearly 2 million acres from riverbed to wetland to forestland were lost or altered during the process of the project. Since they supported that wildlife and those fisheries, those values too were lost during the course of the project, so we had quite a change in terms of the river system. In 1958, the Fish and Wildlife Coordination Act gave credence to the maintenance of those resources as well as other project purposes.

I would like to briefly state a few points. First of all, I think the scope of those losses is fairly well documented in reports by both the Corps of Engineers and the Fish and Wildlife Service. The mandates of the Coordination Act clearly apply to the project.

The project was authorized in the 1986 Water Resources Development Act and to date the Corps and the administration find mitigation to be a low priority. We have worked to get to the point of appropriations for many years. The mitigation, we believe should have the same priority as the original project did and not be given this lip service of low priority.

From the standpoint of habitat mitigation, we view this as well as something that oftentimes is looked at as something that is unusual, unique to the Corps of Engineers, different from their mission and not something they would traditionally be involved in.

From the standpoint of the projects involved, we are talking about building small dams and levies, diversion structures, channels, and doing some dredging. These are really all activities that the Corps of Engineers is very efficient at and things that in the past have been used to a large extent in projects that they have done, but for different purposes.

The current Federal policy, however, I would suggest seems to be moving more and more toward habitat restoration and wetlands protection. We would ask the Federal Government to appropriate the funds to begin an already authorized project to achieve those ends. Our $3 million request is also tempered by our understanding of the demands on the budget and represents only a small fraction of the $51.9 million that were authorized.

Upper Mississippi River Environmental Management Program

I would like briefly to shift to another project that is of importance to Iowa, one that this committee has dealt with in the past. That is the upper Mississippi River system environmental management program. Over the past several years that program has matured. We are very grateful that the administration has seen fit to support this work and we are asking for your consideration of funding at the fully authorized level of $19.95 million.

We have carefully planned and designed a large number of small projects that are ready to construct. We would like to maintain the momentum of that program and to take advantage of what we are receiving in terms of very low bids at this time.

I would also like to note the different course that those two programs have taken. On the Mississippi River, habitat maintenance and enhancement is a priority for the Corps of Engineers. It carries the same weight, if you will, as rehabilitation of the system of locks and dams on that river to support transportation.

It is also a good example of the Fish and Wildlife Service, the Corps of Engineers, and the States really working together. We think that this is the kind of result that we would like to see on the Missouri River.

To us, I think the key in terms of the distinction between the two river systems and the way habitat protection is being dealt with is a matter of implementation of policy. If the Nation sees the preservation of wetlands as an important issue, it is wrong to allow either the history or the project details or other factors that might enter into specific programs, to dictate a different result.

With that, I thank you for your time, Mr. Chairman.

Senator Burdick. Thank you very much. The only problem I can see with your project first-hand is that the Missouri River project is a new start.

Mr. Brown. Well, I recognize that, sir. We would like to think that within the context of the existing budget that it be possible to find some money. As I indicated, we recognize the limitations of the budget at this time and we have only attempted to seek a small portion of the amount that was authorized for the project.

Senator Burdick. I assure you the committee will do what they can.

Mr. Brown. Thank you.

Senator Burdick. Mr. Howard Paul and group, South Dakota? You may proceed in any way you wish.

Mni Wiconi Rural Water Supply Project, South Dakota

STATEMENT OF PAUL IRON CLOUD, CHAIRMAN, OGLALA SIOUX TRIBE, PINE RIDGE RESERVATION, SD

Mr. Iron Cloud. Good morning, Mr. Chairman, members of the committee. My name is Paul Iron Cloud. I am the chairman of the Oglala Sioux Tribe of the Pine Ridge Indian Reservation in South Dakota. Our reservation and adjacent areas desperately need good water for our people. Our present water supplies are inadequate and do not meet drinking water quality standards. We must haul water to many of our people. Not only does our general health

suffer from those poor water supplies, our economic well-being also suffers. We cannot even offer our cattle a decent drink of water in many of our range lands because there is no water.

The last Congress recognized our poor water problem when they passed Public Law 100–516. This law authorizes the Mni Wiconi rural water supply project to serve our reservation and other areas of South Dakota that need decent water. The Missouri River contains a plentiful supply of good quality water. The Mni Wiconi rural water system will deliver that water to us.

I am submitting written testimony supporting our request for $5.5 million Federal appropriation for fiscal year 1990. The project as shown on this map will serve a large area of South Dakota that presently does not have a water supply that meets drinking water quality standards.

Why do we not use different water? In most areas there is no better water available and it is not economical to treat the water we do have. We need your help. The Mni Wiconi authorization recognizes that need. We are asking for financial assistance authorized in the law so we may solve our water problems and provide our people with safe, healthful water supply. The days of poor water and outhouses must come to an end.

We are submitting today additional data to support our request for the funds and will submit additional tribal comments in the next 15 days.

Thank you for your time and attention.

Senator BURDICK. Thank you, Mr. Iron Cloud.

[The statement follows:]

STATEMENT OF PAUL IRON CLOUD

SPECIFIC ACTION REQUESTED

We request that the Bureau of Reclamation FY 90 Appropriation include $[illegible]500,000 for the Mni Wiconi Rural Water Supply Project for the purposes authorized in P.L. 100-5[illegible]6.

JUSTIFICATION SUMMARY

"Don't drink the water" is appropriate advise to anyone entering the Mni Wiconi project area. Most of the public water supplies in the area don't meet Safe Drinking Water Act standards due to high levels of radium, sodium, total dissolved solids, chlorides and sulfates.

Alternatives to project water do not exist. Shallow wells (less than 100 ft.) and surface runoff are unreliable and drought affected (15" normal annual rainfall). Deep wells (1,800 to 3,500 ft.) are very highly mineralized and don't meet SDWA standards.

FIRST YEAR APPROPRIATION OBJECTIVES

The project sponsors are in the process of completing the authorization requirements for final engineering, development of a water conservation plan and NEPA compliance. This has been accomplished with local non-federal funding and with BIA program funds.

FY 90 funds will be used primarily for construction ($4.2 million), engineering for FY 91 construction ($0.5 million), project office, administration and construction services. Pipeline construction will start on the Pine Ridge Indian Reservation. Final design of the water treatment and diversion facilities will be completed. A further itemization of the budget is provided in the enclosed table.

PROJECT SUMMARY DESCRIPTION

Project facilities will take Missouri River water from an intake constructed in the power house at the Oahe Dam. The treatment plant will have capacity to treat 8 million gallons per day. Within the 12,500 square mile service area the system will include 2,300 miles of pipeline ranging in sizes from 1-1/2" to 30" in diameter, 17 pumping stations with a combined 5,000 horsepower and 6.7 million gallons of water storage. The total estimated cost indexed to January 1987 is $100 million.

The project will allow municipal, industrial and rural water systems to provide safe and reliable drinking water for the residents of the Pine Ridge Indian Reservation and Lyman, Jones, Jackson, Haakon, Shannon and Stanley Counties. Portions of Bennett, Mellette and Pennington Counties will also receive water from the system.

The project will provide water to 13 municipalities with a population of 5,932 in the West River and Lyman-Jones service areas and 12 Indian communities on the Pine Ridge Reservation with a population of approximately 10,000. A total of over 1,000 rural households will be served individually with an additional 75 households served through existing rural systems. Approximately 500 separate rural pasture locations will be served for livestock watering purposes.

LOCAL SUPPORT

The Mni Wiconi project has been developed entirely through local support. No federal funds were used in the pre-authorization development. Signup fees paid by individual landowners and loans from the State of South Dakota funded the $500,000 expended in pre-authorization planning and development. Mni Wiconi is the Number 1 project in the South Dakota Water Development Plan. Letters of support from the President of the OST, Governor of the State of South Dakota and others are included in the supporting material.

WATER QUALITY AND HEALTH CONSIDERATIONS

The House of Representatives Committee on Interior and Insular Affairs reported as follows (Report 100-733; June 27, 1988):

> "The existing water supplies are extremely high in dissolved minerals, sodium, sulfate and iron. Safe drinking water standards for radium and fluoride are exceeded at some locations. This poor quality has led to some severe health problems. It has also caused other problems, such as excessive pipe corrosion and equipment failures.

Maintaining reliable, safe and affordable water supplies has been a continuing problem in the area. Periods of drought make surface water supplies, which tend to be shallow stock ponds and small amounts of annual runoff, relatively unreliable.

The primary water supply source outside the reservation is from ground water wells. These wells typically are very deep - running from 3,000 to 4,000 feet in the western part of the project area and from 1,200 to 1,800 feet deep in the eastern portion. However, water from the deep wells has a substantial mineral content which, in turn, results in high mineral deposits and corrosion. This makes the operation and repair of deep wells very costly. Some replacement municipal wells can reach $250,000 and individual wells can run as high as $50,000.

While hard to quantify, a typical municipal household can expect to pay about $14.00 to $30.00 a month; in smaller towns, the monthly costs tend to be higher. Typical rural residents tend to pay from $1,000 to more than $6,000 annually for water supplies, with average annual costs estimated at $5,300. In addition, maintenance of appliances and equipment due to problems created by the minerals in the water can run to several thousand dollars a year for some households.

On the Pine Ridge Indian Reservation, conditions are even more difficult. The Pine Ridge Reservation suffers from the same problems of water quality and quantity that are experienced in other parts of south central South Dakota. However, in addition to water quality problems, many individual households have no reliable water supply at all.

In a 1987 report, the Indian Health Service (IHS) found that approximately one-fifth of all Indian households on the Pine Ridge Reservation were *not* served by a community or individual water system. The percentage of Indian homes without water service on the Pine Ridge Reservation is greater than almost any other reservation.

In those households with water supplies, the IHS found that water quality is below acceptable standards. The number of households with substandard water vary in time and in place; no exact figures are available. However, the IHS reports that of the 16 community water systems on the Reservation, one or more exceed secondary standards under the Safe Drinking Water Act and several system have been in violation of bacteriological standards.

In addition, the IHS noted that individual or small systems serving less than 25 people are not covered by the Safe Drinking Water Act, and therefore, there is no data available. IHS estimates that water quality varies among these systems and they predict that many of these wells would exceed drinking water standards, if tested.

According to the IHS, the reservation has high rates of skin disease, shigella, hepatitis, and high rates of mortality and hospitalization rates for infectious diseases. A portion of these diseases may be attributed to poor environmental conditions, including poor water.

A recent study done by the non-profit research group Rural Coalition found high levels of potentially harmful elements and minerals in the groundwater aquifers serving Indian reservations in South Dakota, including Pine Ridge. The Coalition also found a linkage between the high levels of radiation in the water and a high incidence of kidney disease on the Reservation.

The Pine Ridge Reservation suffers from an unacceptable level of unemployment which approaches 85 percent. The availability of a reliable support of potable water can be expected to assist efforts by the Tribe to attract new industry and promote economic development to the Reservation."

Additional information submitted to the committee demonstrates that an alarmingly high percentage of public water supplies in the project area fail to meet SDWA standards. Public Health Service reports and material submitted by the Oglala Sioux Tribe documents serious health concerns that are associated with existing water quality.

Alternative water sources do not exist. Relocation is not a practical consideration. Continuation of status quo is not in the public interest.

ECONOMIC CONSIDERATIONS

The Lyman-Jones, West River and Oglala Sioux Rural Water Systems are located in west central South Dakota. The reservation and counties to be served by these water systems are among the poorest in the nation.

The current economic base is livestock agriculture and tourism along Interstate Highway 90. The livestock industry is adversely affected by unreliable water supplies that are dependent on drought impacted stock ponds and shallow wells. Highly mineralized water is also detrimental to livestock, particularly small calves, hogs and poultry. The tourism population is severely impacted by intolerable water quality. Tourists unaccustomed to the highly mineralized water commonly experience intestinal discomfort.

New industry will not locate within an area that cannot offer even minimum water supply that meets SDWA standards.

The Mni Wiconi project area continues to experience an extension of the "1988 Drought" with no indication that conditions will change soon. The authorized project facilities will serve to offset or eliminate significant drought related stresses on the public water supplies, livestock water supplies, and economic development in the project area.

LOCAL SUPPORT

The project has continually received very strong local support. Over 1,000 individual farmers and ranchers paid $300 signup membership fees to support pre-authorization expenses and to request service at their location. They also signed up over 500 pasture locations at $150 each. As a condition to signup they agreed to provide pipeline R-O-W easements on their property and to forego compensation as further contribution to the cost of construction.

At an August 25, 1986 Senate subcommittee public hearing (S. Hrg. 99-1031) in Kadoka, South Dakota, over 400 appeared in support of the project. No one testified or submitted testimony in opposition. Representatives of the Oglala Sioux Tribe requested that service be extended to include the Pine Ridge Indian Reservation.

Public hearings were held throughout the project area during the 1988 Environmental Assessment conducted in response to testimony received during House and Senate Subcommittee hearing held December 15, 1987. No testimony was received in opposition to the project, or, in opposition to the project because of adverse environmental impacts.

Governor George Mickelson, the South Dakota Legislature, and the South Dakota Department of Water & Natural Resources have supported the project on numerous occasions. Their support has included significant financial commitments. Their most recent action is the appropriation of $1,500,000 by the 1989 legislature as their contribution to the 35 percent non-federal costs of the Lyman-Jones and West River rural water systems.

Tribal Chairman Paul Iron Cloud, members of the Oglala Sioux Tribal Council and Indian Health Service representatives have testified to the need for the project on the Pine Ridge Indian Reservation. Their only qualification in entering the project is that their participation is not interrupted as a *de facto* adjudication of their water rights. The referenced letter from Chairman Paul Iron Cloud further address the project need and his support for the appropriation request.

The Oglala Sioux Tribe, West River Rural Water System and Lyman-Jones Rural Water System have each designated representatives to serve on the Mni Wiconi Project Steering Committee. Their cooperative efforts are resulting in completion of the legislative preconstruction requirements.

SUMMARY OF ADDITIONAL INFORMATION

Additional information that has been made available for the committee's consideration, although not being submitted for the record, is:

1. Letter from OST Chairman Paul Iron Cloud - in support.
2. Letter from South Dakota Governor George Mickelson - in support.
3. Project Area Water Quality Summary Table.
4. Letters from project area citizens testifying to their water needs and support of the project.
5. Pictures of currently used private wells, encrusted water pipes, dry livestock ponds and deteriorating public water facilities within the project area.

6. Report, "Sanitary Facilities Survey Pine Ridge Indian Reservation", Myrna J. Buckles, Service Unit Sanitarian, USPHS, IHS, Aberdeen Area Office, February 1988 (17 pages with letters of transmittal) - documentation of need.

7. Draft report, "Health Problems Among Aberdeen Area Indians Related to Inadequate Water and Sanitation", Thomas K. Welty, M.D., MPH Medical Epidemiologist, Aberdeen Area Indian Health Service, July 11, 1986 (17 pages) - documentation of need.

8. Map, Project Service Area.

9. Itemization of proposed budgets for FY 90 and succeeding fiscal years.

RURAL WATER SUPPLY PROJECT

FY 90 BUDGET SUMMARY

	FY 90 Budget	State & Local Funding	Federal Funding
GENERAL INVESTIGATIONS			
Project Offices			
OST Rural Water System	$ 122,400	$	$ 122,400
WR & LJ Rural Water System	142,000	49,700	92,300
Final Design & Specifications			
Raw Water Pipeline	103,200		103,200
Water Plant to Ft. Pierre, Pipeline	48,703		48,703
Bull Creek to Sharps Reservoir, Pipeline	106,909		106,909
Sharps Reservoir to Wounded Knee, Pipeline	95,030		95,030
North Jones Junction Pumping Station	16,250		16,250
Sharps Corner Reservoir	25,000		25,000
Water Treatment Plant, Part 1	81,000		81,000
Administration, Inspection & Other	584,283		584,283
Contingencies	30,506		30,506
Subtotal	$1,355,281	$ 49,700	$1,305,581
CONSTRUCTION			
Pine Ridge to Wounded Knee Pipeline	$1,726,988		$1,726,988
Wounded Knee North Pipeline	597,431		597,431
Water Plant South Pumping Station	350,000		350,000
Water Plant West Pumping Station	350,000		350,000
Ft. Pierre Pumping Station	470,000		470,000
Ft. Pierre Reservoir	200,000		200,000
Wounded Knee Reservoir	500,000		500,000
Subtotal	$4,194,419		$4,194,419
TOTAL FY 90 BUDGET	$5,549,700	$ 49,700	$5,500,000

ANNUAL EXPENSE AND APPROPRIATION SUMMARY

FISCAL YEAR	Total Funds	State & Local Funding	Federal Funding
FY 89	$ 222,000	$ 222,000	$
FY 90	5,529,193	49,700	5,479,493
FY 91	11,895,044	49,700	11,805,344
FY 92	12,515,167	49,700	12,461,467
FY 93	12,580,152	49,700	12,530,452
FY 94	10,373,915	49,700	10,324,215
FY 95	12,561,100	1,226,784	11,334,317
FY 96	17,522,851	5,474,925	12,047,926
FY 97	16,853,713	5,266,592	11,587,121
TOTAL	$100,009,135	$12,438,800	$87,570,335

JAMES RIVER WATER DEVELOPMENT STUDY, SOUTH DAKOTA

Senator BURDICK. I want to place in the record at this point the statement of the James River Water Development District.

[The statement follows:]

STATEMENT OF JERRY L. BIEDENFELD, MANAGER, JAMES RIVER WATER DEVELOMENT DISTRICT

Mr. Chairman and distinguished members of this subcommittee, we applaud the U. S. Congress for your continued support of James River water development in South Dakota. Congress has been very responsive to our State in the past with passage of the Water Resources Development Act of 1986 (P.L. 99-662) and an appropriation that is enabling the Corps to start a reconnaissance study to control tributary drainage and provide for bank stabilization.

We respectively ask that the subcommittee appropriate $175,000 for FY 1990 to complete the reconnaissance and do the feasibility studies so that Congress will have the information it needs to make an informed decisions on funding of these stages of the actual project. Our $175,000 appropriation request is supported by the Administration.

The tributary drainage control and bank stabilization stages are part of the overall James River Restoration Project adopted by the James River Water Development District and endorsed by the State of South Dakota, James River landowners from the North Dakota border to the Nebraska border, municipalities who are dependent on the river, environmental enthusiast state wide, and South Dakota's entire Congressional delegation.

We request that the $3.6 million previously spent by the state and local sponsors as well as the $400,000 that will be spent this calendar year be considered as cost share.

There is a real need for tributary drainage control and bank stabilization on the James. The James River Valley, which contains a large proportion of the economic and environmental resources of our state, has been ravaged by flood in recent years. Devastating floods have cost our people millions of dollars in personal losses and have cost the federal government millions more in federal flood relief. The citizens of the James River Valley region have been working to identify the best means to prevent future flood disasters. The completion of the federal study is necessary to bring our efforts to culmination.

We are fully aware of the budget constraints within which Congress must operate. We wish to point out, however, that state and local sponsors have provided $4.0 million in taxes and voluntary landowner assessments toward the identification and implementation of an appropriate flood control strategy for the James. The $175,000 we request constitutes 4% of the amount already invested by state and local sponsors in the project. In other words, for every dollar we request, $25 have already been invested in the project at the local level. Given the level of commitment already exhibited, we feel our $175,000 request is a modest and reasonable one.

We sincerely appreciate your consideration of this matter. If you have any questions about the James River Flood Control Project, we would be pleased to discuss the issue in more detail.

OTHER CONSIDERATIONS
JAMES RIVER RESTORATION PROJECT
FISCAL YEAR 1990 BUDGET REQUEST

1) On April 1, 1989, the Corps of Engineers released the Draft James River Reconnaissance Study. This report recommends eleven (11) projects and study areas where further federal interest is warranted.

2) In order to complete the reconnaissance study and do the required feasibility study, a $175,000 Fiscal Year 1990 appropriation is needed.

3) Congress appropriated $150,000 for the reconnaissance study in Fiscal Year 1988.

4) Congress appropriated $200,000 in Fiscal Year 1989 of which of the Corps of Engineers expended $25,000.

5) The Bush Administration is recommending $175,000 for Fiscal Year 1989 to complete the reconnaissance study and do the feasibility study.

6) The James River Water Development District has adopted a restoration plan which contains three stages of project development. The stage are as follows:

I) Limited Channel Cleanout.
II) Tributary Drainage Control.
III) Bank Stabilization.

This project is supported by James River landowners from the North border to the Nebraska border, municipalities who are dependent on the river; environmental enthusiast statewide; the State of South Dakota; and the entire Congressional Delegation.

7) We are in our second year of Stage I project implementation, as extensive study efforts have already been completed on this aspect of the project. Stages II and III will be implemented upon completion of a reconnaissance and feasibility study.

8) The completion of this federal reconnaissance study and the initiation of the feasibility study in Fiscal Year 1990 will enable the federal government to realize cost savings rather than waiting and investing future dollars to duplicate work already compiled.

JAMES RIVER FLOOD CONTROL
AND
STREAMFLOW IMPROVEMENT FACT SHEET
FOR SECTION 320 OF THE WATER RESOURCES DEVELOPMENT ACT OF 1986

1) Flooding on the James River inundated 21,700 acres of agricultural lands in 1984.

2) Flooding in 1984 caused $6,292,000 in damages to agricultural lands. Additionally, South Dakota highway bridge 50 was severely damaged and homes were evacuated due to flooding and flood caused bank sloughing.

3) Local and state officials are aggressively working to restore the James River for the economical and environmental benefit of present and future generations. More than $3,650,000 has been invested from state and local funds to achieve these goals.

4) Channel capacities have diminished over fifty (50) percent in specific segments of the river when comparing the 1922 survey by W.S. Reeves to subsequent surveys in 1974 and 1982 performed by the Bureau of Reclamation and the South Dakota Department of Water and Natural Resources.

5) Rock dams are located throughout the basin - they number approximately 120 of which 50 are considered major and have a noticeable effect on flows.

6) Log jams caused by trees dying of Dutch Elm disease and falling into the river channel accumulate until large log jams are formed which restrict flow in the river and cause increased sedimentation.

7) Sediment loads brought by the tributaries to the James River cause sand bars to form. These bars obstruct the river's natural flow and reduce conveyance capacity.

8) Operation of Jamestown and Pipestem Reservoirs in North Dakota may be a contributing factor to bank sloughing and extended flooding in the northern reaches.

9) Tributary flows coming from the uplands on a steep gradient meet the virtually flat flood plain of the James River basin. In some instances the river has reversed flow in the northern reach when the tributary, the Elm River, has had large flows.

10) Poor management practices by a small minority of landowners allows tree, trash and animal waste to enter the river, causing flood and health hazards.

11) Minimum flow and flow stabilization are critical to James River water quality both from environmental outlook and the fact that the river is used for irrigation and municipal water supplies.

12) Historic records indicate that in approximately one (1) out of ten (10) years, Jim River flows will be reduced to zero (0) by the month of October.

LYMON-JONES RURAL WATER SUPPLY PROJECT, SOUTH DAKOTA

STATEMENT OF JOE HIEB, CHAIRMAN, LYMON-JONES RURAL WATER SYSTEM, ALSO REPRESENTING WEST RIVER RURAL WATER SYSTEM

Mr. IRON CLOUD. Now, I would now like to introduce Joe Hieb, chairman of the Lymon-Jones Rural Water System for his comments.

Mr. HIEB. Thank you, Paul. Mr. Chairman, members of the committee, I am Joe Hieb, president of the Lymon-Jones Water Development Association, a part of the Mni Wiconi rural water supply project.

We need good water. We are plagued with obscenely high mineral content and radium in our deep wells, very few dependable shallow wells, and no dependable surface waters. We cannot raise cattle efficiently because many of our pastures have no water. We must place warning signs on some water taps so tourists do not become ill by drinking the water.

Our present water is expensive. Hauled drinking water costs from $25 to $40 per 1,000 gallons. A deep farm well to serve one family with poor water will cost from $20,000 to $45,000. Municipal wells delivering poor water can run $180,000. We need your help to obtain the Federal financial assistance necessary to build the Mni Wiconi rural water supply project to bring safe drinking water to southwestern South Dakota.

I have been a director on Lymon-Jones for 24 years and it is coming to the point none of our water passes safe drinking standards and sooner or later we are going to have to do it and we cannot do it ourselves. We just do not have the money; we have to have Federal help.

Thank you.

Senator BURDICK. Are there any questions you want to ask?

You understand, gentlemen, again, that—I believe this is a new start, is it not? $5.5 million; we may have some difficulty. We will do what we can.

Mr. IRON CLOUD. Thank you very much for your time.

Senator BURDICK. Next is the Joint Committee, Improvement of Philadelphia Port.

DELAWARE RIVER NAVIGATION PROJECTS

STATEMENT OF JAMES R. KELLY, PRESIDENT OF THE DELAWARE RIVER PORTS AUTHORITY

ACCOMPANIED BY:

WILLIAM A. HARRISON, SECRETARY-TREASURER, JOINT EXECUTIVE COMMITTEE AND PRESIDENT, PORTS OF PHILADELPHIA MARITIME EXCHANGE

LEWIS CACCESE, CONSULTANT, JOINT EXECUTIVE COMMITTEE

ROBERT BANKS, MARKETING DIRECTOR, SOUTH JERSEY PORT CORP.

CAPT. SAMUEL M. SCHELLENGER, CHAIRMAN, MARINERS' ADVISORY COMMITTEE

WILLIAM McLAUGHLIN, DIRECTOR, CORPORATE COMMUNICATIONS, PHILADELPHIA PORT CORP.

Mr. KELLY. Good morning, Mr. Chairman, members of the committee. My name is James Kelly. I am president of the Delaware River Port Authority and I would like to introduce some of my colleagues here today representing the port.

I have Mr. William Harrison, secretary-treasurer of the –Joint Executive Committee which we all represent here today and he is also the president of the Ports of Philadelphia Maritime Exchange. We also have with us Mr. Lou Caccese, formerly with the Army Corps of Engineers, who is our consultant, Mr. Robert Banks, who represents the South Jersey Port Corp., and Mr. Bill McLaughlin, who represents the Philadelphia Port Corp. We also have with us Capt. Sam Schellenger, who is the chairman of our mariner's advisory committee.

Mr. Chairman, in the interests of brevity they selected me to be the spokesman, having the greatest amount of maturity and the least amount of endurance, to present our paper to you today.

Senator BURDICK. You look pretty durable to me.

Mr. KELLY. I do not even buy green bananas any more, Senator. [Laughter.]

Mr. KELLY. The Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area is port spokesman for about 24 Delaware Valley civic and trade associations. We represent the ports of Philadelphia on the Delaware River which include the ports and the cities of Camden, Gloucester, Pettys Island, Morrisville, Philadelphia, Chester, and Wilmington.

All of these ports are located in three different States. We are identified collectively as the ports of Philadelphia. Last year we handled approximately 72 million tons of international cargo and we produced in economic benefits to our tristate region some $2 billion.

In the process of the movement of our 1988 water-borne commerce the ports of Philadelphia produced approximately $370 million for the Federal Government in customs receipts. We believe that this is a very high benefits-to-cost ratio and is in the great interest of the Federal Government to see that our operation and maintenance funding is continued.

The budget for fiscal year 1989 was greater than what our fiscal year budget 1990 is stipulated to produce for operations and maintenance. We attribute the excellent performance of the U.S. Army Corps of Engineers to being able to reduce our budget somewhat in 1990 and still produce what we consider a very satisfactory level of operation and maintenance for our port region.

The elements of the operation and maintenance for our region include the dredging of our channel, our authorized 40-foot channel from Trenton through Philadelphia to the sea in the amounts of some $15.5 million, the improvement of the Schuylkill River for $1.4 million, the Wilmington Harbor project for $7.2 million, and the continuation of the improvements to the Chesapeake & Delaware Canal in the amount of $10.5 million.

This in total is a budget of some $34,468,000 and we certainly support that budget. We have great trust in the Army Engineers to perform our operation and maintenance to the highest level and, therefore, we support the budget.

In addition, we are looking to have your support on the continuation of our Delaware River comprehensive navigation study and also certain projects which we are doing some design and engineering work. All of these items are covered in the budget and addressed specifically in our joint statement.

We are very grateful to this committee and to you, sir, for the past assistance that you have always given to the ports of Philadelphia and we look forward to a similar relationship in the future with your committee.

Thank you very much, sir.

[The statement follows:]

STATEMENT OF JAMES R. KELLY

IDENTIFYING REMARKS

The Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area is port-affairs spokesman for twenty-four Delaware Valley civic and trade associations whose names appear at the bottom of this letterhead page. Organized in 1888, this Committee has participated in and promoted all major navigation improvements to the Delaware, Schuylkill and Christina Rivers and to the Chesapeake and Delaware Canal. The members pay no dues beyond the nominal amounts needed to cover the organization's administrative expenses, and its officers serve without compensation.

Our Delaware River marine terminals in Camden, Gloucester, Pettys Island, Morrisville, Philadelphia, Chester and Wilmington; located in three states and identified collectively as the Ports of Philadelphia; handled 71,840,000 tons of international cargo during calendar year 1988. This commerce generated more than two billion dollars into the economy of the tri-state Delaware Valley region.

Seven major oil refineries; the largest refinery complex on the east coast, plus one of the nation's largest steel mills are located along the Delaware River. In addition to the strong support these facilities lend to the economy and to national defense, the Philadelphia Naval Base is strategically located at the confluence of the Delaware and Schuylkill Rivers. In 1988 waterborne commerce in the Ports of Philadelphia produced approximately $370 million for the Federal Government in Customs Receipts. For these reasons we solicit your support for our important and necessary navigation projects.

SUMMARY

The Joint Executive Committee recognizes the need for fiscal restraint and supports the Corps in their drive to obtain economies in their navigation program. The Corps has assured us that the reduction in O & M funds in the Ports of Philadelphia as compared to the FY '89 program still permits them to provide adequate maintenance. We therefore support the $34,468,000 contained in the FY '90 budget based on our trust in the Corps of Engineers assurances, and listed as follows:

OPERATIONS AND MAINTENANCE

Delaware River, Philadelphia to the Sea	$13,465,000
Delaware River, Philadelphia to Trenton	1,820,000
Schuylkill River	1,400,000
Wilmington Harbor	7,222,000
Chesapeake & Delaware Canal	10,561,000
Total	$34,468,000

In addition we also support the budgeted amount of $475,000 to continue the Delaware River Comprehensive Navigation study.

Wilmington Harbor (38' Project)

The Port of Wilmington is a substantial economic asset to the City of Wilmington, the State of Delaware and the surrounding region. The Port's activities provide an estimated 1,000 jobs for area citizens and account for over $100 million in revenue impacts. The Port of Wilmington has become a principal port in the North Atlantic area for the import of fruit, particularly bananas and orange juice for distribution in both the northeastern United States and Canada. This is a result of substantial capital investments to the facilities at this port. It should be noted that the Wilmington Harbor port deepening project is cost-shared.

An important aspect of the Wilmington Harbor is its increasing participation in foreign exports which are so necessary to our balance of trade. 65,000 motor vehicles were exported last year; export of Holstein cattle are ever increasing; and regular liner service to Europe has been recently instituted for the export trade. The export of approximately 3/4 of a billion dollars of American products annually from Wilmington is an asset to be protected.

The budget request of $7,222,000 is considered to be reasonable and we have been assured will enable the Port of Wilmington to continue its dynamic progress; assuring additional economic growth to the region.

General Investigations

The Joint Executive Committee continues to be intensely interested in the need to bring to an early conclusion studies underway in connection with the Delaware River Comprehensive Navigation Study. Our community has demonstrated that we will support, with cost-sharing, worthwhile projects resulting from these studies. An example is the contribution of over $1 million by the South Jersey Port Corporation for the "Camden and Vicinity Project" which was completed last year.

The Joint Executive Committee particularly supports the request of $475,000 for the Delaware River Comprehensive Navigation Study. We particularly urge completion of the study for the deepening of the Delaware River Channel to 45'. The benefits to be obtained by the bulk carriers which ply the Delaware River are enormous; and, the realization of the deeper channel will substantially reduce costs and will combat the ever increasing price of petroleum products.

Preliminary Engineering and Design

The Joint Executive Committee also urges that sufficient appropriations be made so that the following projects may be brought to reality:

Delaware River in the Vicinity of Camden	- $ 50,000
Tioga Marine Terminal	- $150,000
Salem River	- $250,000

FULL TESTIMONY

Delaware River - Philadelphia to the Sea and Philadelphia to Trenton (40' Project)

The navigable channel from Trenton to the sea is 120 miles long and it makes possible the economies inherent in waterborne commerce to be brought to the doorsteps of one of the largest urban areas of the United States. Adequate maintenance of the 40-foot channel is of utmost importance to the Ports on the Delaware River. This conduit of commerce provides 100,000 jobs to the area, over 2 billion dollars in business revenue and $91 million in local tax revenues. It is only through adequate channel maintenance, which is dependent on adequate funding, that our regional economy will continue to prosper. Statistical data reveals total waterborne commerce on the Delaware River has increased to 110 million tons per year. The continued adequate maintenance of the main ship channel is necessary to accomodate the existing facilities and the recent new and expanded facilities which now exist on the Delaware River. Recent expansions have taken place in connection with the Holt Terminal in Gloucester, New Jersey; the Pettys Island Terminal in Pennsauken, New Jersey, which provides regular container service to and from Puerto Rico and also participates in international commerce; the recently expanded facilities and ever growing cargo tonnage at the South Jersey Port Corporation and which portends to further increase as a result of the completion of the new cost-sharing project in the vicinity of Camden, New Jersey; the Governor of Pennsylvania in cooperation with the Pennsylvania Legislature recently delivered an appropriation to the Philadelphia Port Corporation in the amount of $24 million for refurbishing City-owned marine terminals on the Philadelphia side of the Delaware River; and the enlarged port activity at Penn Terminal in Chester, Pennsylvania, as well as Wilmington Harbor, Delaware, as a result of their modernized facilities which has raised their cargo level. In view of this we support the appropriation of $13,465,000 for the Delaware River - Philadelphia to the Sea project and $1,820,000 for the Delaware River - Philadelphia to Trenton project -- representing the main stem of the Delaware River and which of course is essential in serving the marine terminals along the length of the tributary.

These recent local initiatives along the Delaware River merit the Federal support for this dynamic artery of commerce. The Governors of Pennsylvania and New Jersey in recognition of the importance of the Delaware River have agreed to work towards unifying port facilities and to underwrite modern physical facilities. In this connection design is underway for the largest intermodal terminal in the United States to be located at Greenwich Rail Yards in Philadelphia; and the Delaware River Port Authority, with the approval of the two Governors has provided $1.5 million to the Ports of Philadelphia Maritime Exchange to automate a Cargo Tracking System.

Schuylkill River (33' and 26' Projects)

Major refineries continue to operate on the Schuylkill River. Petroleum is delivered for processing and the product is dispatched from the petroleum terminals. The U. S. Gypsum Company plant on this waterway receives its raw gypsum rock by vessel from Canada. These users, as well as the other users of this waterway, continue to require adequate project maintenance to continue operation. The Corps' requirement of $1,400,000 for this maintenance while below the FY '89 requirement is considered reasonable.

Chesapeake and Delaware Canal (35' Project)

The Chesapeake and Delaware Canal continues to be a vital link between the Ports of Philadelphia and Baltimore. This canal, which is the busiest man-made sea level canal in this nation, also saves approximately 24 hours per trip for vessels plying between Baltimore and other North Atlantic ports. Commerce is approximately 15 million tons per year. We consider that the Corps of Engineers requirement for this project of $10,561,000 for FY '90 is reasonable.

Senator BURDICK. Of course, we will review your testimony very carefully and do what we can. Thank you.

Mr. KELLY. Thank you very much.

Senator BURDICK. Congressman Campbell.

Welcome to the committee, Congressman.

Mr. CAMPBELL. Thank you, Mr. Chairman. I do not have any written testimony but really came to show support for two water projects in our district and to introduce the people that will be testifying, but I would like to say, coming from the West I feel a little bit like I am preaching to the choir, knowing your background in the West and water. I think last year's droughts really brought to the forefront all of our interest in the West about how we have to conserve water.

The first project that we wanted to talk to you a little bit about today was the Closed Basin project in which we do support the administration's request of $7.7 million and I would like to introduce Don Meyers who is a board member of the Rio Grande Water Conservation District in Colorado to speak to that, if I could.

Senator BURDICK. Mr. Meyers.

CLOSED BASIN PROJECT, COLORADO

STATEMENT OF DON MEYERS, CHAIRMAN, RIO GRANDE WATER CONSERVATION DISTRICT, CO

Mr. MEYERS. Yes, sir.

Good morning, Mr. Chairman. Congressman Campbell, I would like to thank you for the most gracious and supportive introduction. We have greatly appreciated Congressman Campbell's representation on this vital issue during his term here in Washington. We appreciate the support of Senators Wirth and Armstrong as well on this project.

My name is Don Meyers and I am a member of the board of the Rio Grande Water Conservation District, a local water conservation and management district chartered by the laws of the State of Colorado which is responsible for water conservation and management in a five-county area encompassing the bulk of the San Luis Valley in Colorado. My role with the district is purely a voluntary one, for which I receive no remuneration other than the satisfaction of seeing the goal of the water conservation and management move closer to reality. When I am not working on district business I am a farmer and raise potatoes and brewing barley.

The Closed Basin project is an important part of the valley's efforts to achieve water management. In the eastern part of the valley there is a large closed basin that has not had a natural outlet in a millennium. All of the snow melt and the stream flows from the Sangre de Cristo Mountains and the northern San Juan Mountains flow into the basin where the water ponds up and is lost to evaporation and consumed by free atophytes such as rabbit brush and salt grass.

By salvaging this water and transporting it to the Rio Grande River the Bureau of Reclamation will provide an enormous service to the citizens of the valley. It will permit the State of Colorado to better meet its contract obligations to the States of Texas and New Mexico on the Rio Grande River. It will permit the U.S. Govern-

ment to have those new waters available to meet obligations with the Republic of Mexico and it will provide a steadier and more consistent water supply for two wildlife refuge and management areas. In addition, the project will help ensure a stable wetlands environment for the numbers of waterfowl, cranes and other migratory and resident birds that rely on our valley for their lives.

We support the requested appropriation in the President's budget. It will permit the Bureau of Reclamation to move forward rapidly and efficiently to complete the project. As Congress has directed, the State of Colorado is prepared to cost-share the final construction on a one-third/two-thirds basis up to $6 million, which we believe provides strong and convincing evidence of the commitment of not only the local water users but also the State of Colorado to this most important project. The bill authorizing cost-sharing by the State up to $6 million is even now being signed into law by Governor Romer, so Colorado is ready to proceed.

On behalf of the citizens of the San Luis Valley and its water users I would like to thank you for your support in years past and would again respectfully request your favorable consideration of the President's recommended budget for the Closed Basin Division, San Luis Valley project being constructed by the Bureau of Reclamation.

Thank you very much for your attention.

[The statement follows:]

STATEMENT OF LYNN KOPFMAN, PRESIDENT, RIO GRANDE WATER CONSERVATION DISTRICT

Mr. Chairman and distinguished members of the Committee, this testimony is submitted on behalf of the Board of Directors of the Rio Grande Water Conservation District.

I. Introduction

The Rio Grande Water Conservation District is a political subdivision of the State of Colorado established pursuant to the provisions of Colorado Revised Statutes §37-48-101, et seq. The District is charged with the conservation, use, and development of the water resources of the Rio Grande and its tributaries within Colorado and as such is the local sponsoring entity of the Closed Basin Division of the San Luis Valley Project, Colorado (commonly called the "Closed Basin Project"). The District's Board of Directors represents the five counties in Colorado which will be benefited by the Project. These five counties encompass the vast majority of the land in the Rio Grande drainage within Colorado.

The San Luis Valley receives less than ten (10) inches of average annual precipitation and relies, almost exclusively, on irrigation to support its agricultural economy. Of the approximately 600,000 acres of irrigated land, about 425,000 acres are cultivated, with half the acreage being used to raise barley, primarily for malting, and potatoes, and the remainder being used to raise hay and alfalfa, other small grains and vegetables. In addition to natural shortages, the single most important limitation on the availability of water for irrigation is the restrictive effect of the Rio Grande Compact. The Closed Basin Project will help to alleviate that restriction by adding water to the system. It is a true water salvage project which will permit the continued cultivation and use of the existing farmland. All of the irrigation systems in the San Luis Valley were developed by local water user organizations prior to the initiation of the Closed Basin Project.

II. Description of the Project

A. Physical Circumstances. The San Luis Valley is located in south-central Colorado. The Rio Grande rises in the San Juan Mountains to the west of the Valley, flows southeasterly through the Valley to Alamosa, then runs south into New Mexico, and then along the border between Texas and Mexico. The Closed Basin is a hydrologic feature north of the Rio Grande in the San Luis Valley. It is created by a hydraulic divide that prevents waters flowing out of the mountains on the north end of the Valley from reaching the Rio Grande. Water within the basin flows toward a sump area in the northeastern portion of the Valley, where most of the water is lost to non-beneficial evapotranspiration. The alluvial material in the sump area is believed to be separated from the lower portions of the Valley fill material by an aquiclude called the Blue Clay Series. which lays about 100 feet below the surface. The water below the Blue Clay Series is generally under artesian pressure while the water above the Blue Clay Series, in the sump, is not.

B. History of the Project. The potential for a project to salvage water in the sump area of the Closed Basin has been recognized for well over 50 years. In fact, that possibility was expressly recognized in the Rio Grande Compact (53 Stat. 785). On October 20, 1972, Public Law 92-514 was enacted which authorized the construction, operation, and maintenance of the Closed Basin Project. The primary purpose of the Project is to salvage water which is now being lost through non-beneficial evapotranspiration. Salvage is accomplished through a series of wells which are

pumped to lower the water table in the sump area of the basin. The wells only withdraw water from the shallow aquifer above the Blue Clay Series and north of the hydraulic divide. The pumped water is discharged into a conveyance channel which carries it across the hydraulic divide and delivers it to the mainstem of the Rio Grande in order to assist Colorado in making the deliveries required of it under the terms of the Rio Grande Compact and to permit other beneficial uses of the water.

The authorizing legislation for the Closed Basin Project has been amended on three occasions. The most recent amendment, in 1988, increased the ceiling for the Project, provided for cost-sharing by the State of Colorado, and made other modifications to the Project's original authorization.

The Project was envisioned as a solution to several water resource problems in the Rio Grande Basin. First, the Rio Grande Basin is notoriously water short in all but the rarest years. Second, the Rio Grande Compact imposes strict obligations on the State of Colorado to deliver water each year to the States of New Mexico and Texas. This obligation normally results in substantial curtailments of diversions by Colorado water users in order to meet Colorado's commitments. Third, the United States has a treaty commitment to the United States of Mexico to share the waters of the Rio Grande (34 Stat. 2953). Fourth, federal wildlife refuges in the San Luis Valley have a need for additional water. When fully constructed, the Project will assist in meeting all of these needs by providing additional water supplies not otherwise available.

At the time of Project authorization, the State of Colorado was allegedly in debt to the States of New Mexico and Texas under the terms of the Rio Grande Compact. The alleged indebtedness exceeded 900,000 acre-feet. This shortfall gave impetus to the authorization for the Project. Today, that indebtedness no longer exists due to a series of unprecedented and truly unique years in which the water supply in the Basin far exceeded all historical records; however, the elimination of that indebtedness has increased the need for and the usefulness of the Project by permitting extensive water management to occur.

The decree for the Closed Basin Project was obtained by the Rio Grande Water Conservation District in Case No. W-3038 in a proceeding before the Water Court for Water Division No. 3, State of Colorado. The appropriation date awarded to the Project is July 31, 1963. The decree was obtained at the request of the United States, which had not been joined in State court adjudication proceedings under the McCarran Act. The decree has been dedicated to the Bureau of Reclamation for the use and benefit of the Project.

III. Applicable Statutes

A. The Closed Basin Project authorizing legislation, P.L. 92-514 (86 Stat. 954), as amended by P.L. 96-375 (94 Stat. 1507), P.L. 98-570 (98 Stat. 2941), as further amended by P.L. 100-516 (102 Stat. 2566).

B. Rio Grande Compact (73 Stat. 785).

C. Treaty with Mexico (34 Stat. 2953).

IV. Project Status

Construction of the Closed Basin Project has been segmented into stages (Stage 1-2, 3, 4, and 5). Stage 1-2 is completed and operating. Stage 3 is close to completion and will be fully operational during 1989. The wells in Stages 4 and 5 are completed, the conveyance channel is completed, and all of the rights-of-way for the pipeline laterals in Stages 4 and 5 have been acquired. The construction on Stage 4 is currently ongoing. The Bureau of Reclamation has done an excellent job in managing the Project, and water has been delivered to the Alamosa National Wildlife Refuge

and the Blanca Habitat Area and to the Rio Grande from Stage 1-2 for several years. In addition, water was delivered to the Rio Grande on a test basis from Stage 3. Additional funding will be used to continue the construction schedule established by the Bureau of Reclamation to insure completion of the Project.

Pursuant to the requirements of P.L. 100-516, the General Assembly of the State of Colorado has approved Senate Bill 85 which authorizes the Colorado Water Conservation Board to expend up to six million dollars of State money in order to cost-share the remaining construction on Stages 4 and 5. That money will be made available to the Bureau of Reclamation pursuant to a cost-sharing agreement which is currently being negotiated. Once signed, that agreement will bind Colorado to cost-share the construction activities necessary to complete the Project at the level required in the federal law.

V. Appropriation Request

The Administration's proposed budget for FY 1989 requests the appropriation of 7.75 million dollars for ongoing construction of the Closed Basin Project. That is the amount of money that can be utilized by the Bureau of Reclamation to secure continued construction in accordance with the current schedule.

We strongly support the Administration's request. It will permit this most important project to move toward completion. It will insure that construction activity is not interrupted, which would result in substantial additional costs and inefficiencies, and it will allow the Bureau of Reclamation to hold to its construction schedule.

VI. Conclusion

The Closed Basin Project is vital to the long-term health of our area. It is two-thirds completed and the Administration's budget for 1990 will allow the Bureau of Reclamation to continue construction on schedule. Please include the requested sum of 7.75 million dollars in the FY 1990 budget. Thank you.

JOINT STATEMENT OF THE SEVEN COLORADO RIVER BASIN STATES (ARIZONA, CALIFORNIA, COLORADO, NEVADA, NEW MEXICO, UTAH, AND WYOMING)

This statement is submitted on behalf of the seven Colorado River Basin states to call to the attention of the Congress the need for and importance of maintaining and improving federal capability in precipitation management research, and the importance of this research to the Colorado River Basin. Without immediate Congressional support, an established and emerging national resource with potential widespread application and benefit, representing decades of scientific research, will be dissolved at the beginning of an era when it is most needed.

The potential of precipitation management for enhancing water resources management has been well documented. For water deficient regions, it represents an as yet untapped, nonstructural water augmentation tool of critical importance. Furthermore, precipitation management research is essential to gaining a greater understanding of climatological trends, changes and their causes, and it offers potential added benefits of being able to help offset or mitigate the adverse effects of changes.

The Division of Atmospheric Resources Research of the Bureau of Reclamation, over the past several decades, has advanced precipitation management technology through theoretical studies, laboratory and field experiments and controlled cloud seeding programs to a level of applied research expertise which is recognized both nationally and internationally. Its efforts are aimed at developing scientifically sound operational weather modification techniques for water production which have evolved or are presently evolving into domestic and international cooperative programs. Advanced weather modification technology for snowpack enhancement has originated and been refined through these efforts. This technology is particularly suited for regions where the principal source of water supply originates as snowmelt from alpine and subalpine watersheds, such as the Colorado River Basin.

The precipitation management research and technology transfer capabilities of the Division of Atmospheric Resources Research of the Bureau of Reclamation have been sharply curtailed because of funding reductions over the past three years. From a program level of $5.7 million in 1987, the funding level was reduced to less than $500,000 in 1988 and a lesser amount than that in 1989. This, coupled with the lack of federal funding in the President's proposed 1990 budget, is of extreme concern to all of the Colorado River Basin states and many other states that have long recognized the potential applications and multi-dimensional benefits that could evolve from this research.

With respect to the total realm of water resources management, much has been accomplished to improve quantity management relative to water demands and delivery systems, but little has been accomplished relative to quantity management for increasing the source of supply. To abandon

years of investment in the development of the technology and expertise, which may very well represent the most or only feasible means for augmenting water supplies for water-short areas and mitigating the adverse effects of climtalogical changes at the beginning of an era of growing need and for which the technology was targeted, or could be most beneficial, does not make sense.

In the Colorado River Basin, where it has long been recognized that there is insufficient water in the Basin to meet the long-term needs of the Basin states, precipitation management has been included among the alternatives considered in water supply augmentation studies authorized by Congress under the Colorado River Basin Project Act of 1968, P.L. 90-537. Absent augmentation of the river, it is anticipated that Basin water use will exceed the long-term average flow of the river in the 1990s and that shortages will have to be taken soon after the turn of the century.

Congress, in approving P.L. 90-537, not only recognized the need for augmenting the water supply of the river to meet the long-term needs of the Basin states, but also declared in Section 202 of the Act "...that the satisfaction of the requirements of the Mexican Water Treaty from the Colorado River constitutes a national obligation which shall be the first obligation of any augmentation project planned pursuant to Section 201 of this Act..." Section 202 also declares that the Treaty's requirements shall be met from the waters of the Colorado River pursuant to existing treaties, laws and compacts until the national obligation is met by implementation of a 2.5 million acre-foot per year water augmentation project.

Augmentation of the Colorado River system by 2.5 million acre-feet in accordance with P.L. 90-537 would provide sufficient water to meet the 1.5 million acre-foot per year Mexican Water Treaty delivery requirement and the estimated 0.2 million acre-feet per year of associated delivery losses and avoid future shortages in the Basin. Failure to carry out the federal obligation in meeting the Mexican Water Treaty requirements will severely reduce the river supply available to the Basin states and will seriously aggravate an already deficient water supply condition.

Following years of comprehensive analyses, four possible measures for augmenting the Colorado River have been identified: (1) desalting of sea water; (2) importation of Columbia River Basin water; (3) weather modification to increase runoff; and (4) vegetation management to increase runoff. Presently, the most promising means of augmenting the river is weather modification. The Division of Atmospheric Resources Research of the Bureau of Reclamation estimates that basinwide winter cloud seeding in the high mountainous alpine and subalpine watersheds in the Colorado River Basin to enhance snowpack could increase the river supply by an average of 1.5 to 2.0 million acre-feet of water per year.

While much has been accomplished to demonstrate the effectiveness of cloud seeding technology as a means of increasing snowpack in the Colorado River Basin, much remains to be done to demonstrate the feasibility of a basinwide

program. Increases in snowpack must be confirmed and quantified, social and environmental impacts must be assessed, and techniques for risk reduction must be investigated. The Bureau of Reclamation's Division of Atmospheric Resources Research is the appropriate entity to complete this work. The Division is also the logical agency to implement and operate a basinwide cloud seeding program to accomplish the Secretary of the Interior's river augmentation responsibilities pursuant to the Colorado River Basin Project Act.

Eleven agencies within the States of Arizona, California, Kansas, Nevada, North Dakota, Oklahoma, Texas, Utah, and Wyoming have formally expressed their interest in participating on a cooperative basis with the Bureau of Reclamation for the continued research and application of precipitation management technology. Collectively, the expressed interest amounts to matching funds of $4.2 million.

The wide support for the Bureau of Reclamation's precipitation management research extends well beyond the seven Colorado River Basin states and the nine States that have formally indicated an interest in pursuing the research on a cooperative basis with the goal of transferring the research into operational programs. The need to maintain and improve federal capability in precipitation management research has been expressed in formal resolutions of the Western States Water Council, representing 17 western states; the National Water Resources Association; the Colorado River Water Users Association; and individual entities within these organizations.

The Colorado River Basin states believe that precipitation management research is best addressed at the federal level since the technology is viewed as a national resource with widespread application and because the centralized federal management of this research has provided and will maintain critical program continuity, economy and coordination.

In summary, the Colorado River Basin states strongly urge the Congress to provide $4.2 million in the Fiscal Year 1990 federal budget for the Bureau of Reclamation to maintain and improve the federal capability in precipitation management research, to further the transfer of this technology to operational plans, to meet state commitments for cooperative applied research programs, and to further the understanding of global climatological changes.

The Basin states also urge the Congress to obtain appropriate assurance that the Department of the Interior is giving high priority to delineating and implementing, in a timely manner, the most appropriate means of augmenting the Colorado River to satisfy the national obligation of meeting the requirements of the Mexican Water Treaty as mandated by the Colorado River Basin Project Act, so as not to diminish the already deficient river supply available to the Basin states. Given the necessary lead time required to implement any of the identified means of augmenting the river, the present absence of a well defined program by Interior for

confirming feasible and appropriate augmentation measures continues to be of great concern to the Basin states.

The seven Colorado River Basin states thank you for the opportunity to present their views on this extremely important issue of maintaining and improving federal capability in the field of precipitation management research, a national resource that is still in its infancy with respect to the potential benefits it can provide to the nation.

ANIMAS-LA PLATA PROJECT

STATEMENT OF HON. BEN NIGHTHORSE CAMPBELL, U.S. REPRESENTATIVE FROM COLORADO

Mr. CAMPBELL. On the next project, we have to part ways with the administration in their request for money and it concerns the Animas-La Plata project and I would like to introduce the people who would testify with your permission and that will be Leonard Burch, the chairman of the Southern Ute Indian Tribe, Ernest House, the chairman of the Ute Mountain Ute Indian Tribe, Fred Kroeger, who is the president of the Southwest Water Conservancy District near Durango, CO, Larry Deremo on the board of the Dolores Water Conservancy District, and Tom Colbert, who is the Montezuma County commissioner from the southwest part of our State.

All of these people have been active for a good number of years. In fact, Fred Kroeger to my right has been working on this Animas-La Plata project for four decades and there are people in our district who have been working much longer than that.

There are a number of people that came all the way from Colorado at the back of the room, Mr. Chairman. In fact, the whole corner back here on the left side of the room are people who have been active in supporting the Animas-La Plata project and for years have worked on its development.

The Animas-La Plata project, as you probably remember, was authorized in 1968 through our late chairman of the Interior Committee on the House side, Mr. Aspinall, and that project was never built, although it was authorized at the same time as the central Arizona and several other western projects.

Last year, we pushed forward a bill called the Ute Indian Water Repayment Act, which really implemented that project and was supported and signed into law, but unfortunately this year we find that in the President's budget there is a reduced amount of money.

They are asking for $3.7 million to pursue the Animas-La Plata project, but through the negotiated agreement to build that project we have a 12-year construction period that is extremely important and if we accept the President's recommendation we simply cannot meet that 12-year construction period and so we are asking this committee to support us on a $5.9 million request this year.

I think that that project was really a landmark in negotiating water disagreements in the West between Indian tribes and other users and the litigation that we avoided by going through the court system I think sets a precedent for many western water projects. With your permission I would like to have these gentlemen testify on one-half of that project.

Perhaps, could we start with Leonard Burch, the chairman of the Southern Ute Indian Tribe, Mr. Chairman?

Senator BURDICK. Before we start on the witnesses at the table I think Mr. McDonald would like to be heard for a few minutes.

Is Mr. McDonald present?

Mr. CAMPBELL. Yes, he is. I am sorry, I did not know you were going to be testifying here.

Senator BURDICK. Then we will hear the other members at the table.

[The statement follows:]

STATEMENT OF CONGRESSMAN BEN NIGHTHORSE CAMPBELL OF COLORADO

Each year I have the pleasure of visiting with members of the Subcommittee about projects that are important to Colorado.

The Administration was sensitive to my state's needs with two notable exceptions. The first is the Animas La-Plata project, the second is the funding for Colorado's to control salinity in the Colorado River.

Fiscal year 1990 construction funding is crucial to build the Animas La-Plata water project, on schedule, to fulfill the government's commitment to end a long-standing dispute over scarce water for the Four Corners Region of our nation.

The project must be constructed as the result of a law passed during the 100th Congress. The law represents congressional and administrative approval of two historic agreements.

The first such agreement was the Cost Sharing Agreement for construction of the Animas-La Plata Water Resource Development Project, dated June 30, 1986. In order to provide a sufficient water supply to meet the competing needs of both Indian and non-Indian water users, construction of the Animas-La Plata Project is required. The Cost Sharing Agreement ratified by our legislative action last year assumes that construction will occur on a 12-year timetable.

In order to meet this schedule, it is vital that $5.9 million be appropriated in FY 1990. The administration's fiscal year 1990 budget request of $3.7 million falls well short of the funds needed by the Bureau of Reclamation to meet the government's commitments acknowledged only months ago.

The $5.9 million appropriation is important to show the Administration that Congress intends to continue the construction of the ALP during FY 1190. Unfortunately, the Administration's budget indicates that "preconstruction activities for the Ridges Basin Collection and Delivery Systems and the purchase of lab and office equipment already underway will be brought to a reasonable conclusion."

When questioned about the Administration's intentions, Secretary of the Interior Lujan has said the budget message reflects the Department's continuing policy of providing large sums to on-line projects before beginning construction on new projects.

This rationale ignores the both the 12-year construction schedule outlined in the cost-sharing agreement and to the Colorado Ute Indian Water Rights Settlement legislation. Without timely construction and delivery of water, the settlement is in extreme jeopardy. I therefore request that the Subcommittee express an intention to provide $5.9 million in FY '90 to be used to continue construction on the Animas-La Plata Project.

Congress must recognize to recognize that failing to meet water delivery schedules to the two Colorado Ute Tribes will allow the Tribes to abrogate the agreements.

To emphasize, the Tribes will only enter into a final decree in District Water Court if all the conditions of the settlement agreement are met. It would be a tragedy if inadequate

appropriations are the source of renewed disputes between the the Tribes and their non-Indian neighbors, especially after they have proven that cooperation can be maintained even in the volatile setting of western water claims.

The State of Colorado has appropriated its share of the necessary funding. The state has begun constructing a pipeline to serve the Ute Mountain Ute Indian Reservation. In fact, last week the Colorado General Assembly appropriated the final $5.6 million installment required by the Cost Sharing Agreement.

In his inaugural address, President Bush stated: "Great nations, like great men, must keep their word." I urge the Subcommittee to appropriate the full $5.9 million in fiscal year 1990 that the Bureau of Reclamation is capable of spending to construct the Animas-La Plata Project.

The next two projects that deserve mention are the Dolores and the Closed Basin Project. I support the administration's's budget request for the Dolores Project and know the $41.146 million is important continue construction on the numerous project features. This project and its delivery of water to project beneficiaries has already shown much success and its timely completion will be important to the economy of both the non-Indian and Indian communities in the area.

The Administration's has requested $7,755,000 for the Closed Basin Project and my constituents want to see that amount appropriated. Congress increased the authorization ceiling for this project last year. The legislation contained non-federal cost-sharing requirements of up to a total State share of $6 million, which the Colorado General Assembly has approved.

I want to single out two salinity control projects. The Lower Gunnison salinity control project near Montrose is one of the most cost-effective units of the entire salinity program. The requested appropriation of $5 million for placing the winter water supply in pipelines will remove salt at a cost of only $38 per ton, compared to nearly $100 per ton for other units.

In addition, I urge that funding for Grand Valley be increased from the Administration's request of $8.5 million to $10 million in order to continue the construction of canals and laterals at a rate to match local farmers' contributions under the cost sharing agreement.

The next project is important because it has been the only project in Colorado to be constructed under the Small Reclamation Projects Act. neStagecoach Dam Project

The A ministration requested $2,437,000 for this project located in Routt County in northwestern Colorado and authorized under the Small Reclamation Projects Act. The Bureau of Reclamation, however, committed an addition $300,000 in FY 1989 to the project's construction. Therefore, the Subcommittee only needs to spend $2.137 million in FY 1990.

The dam is completed and the reservoir is being filled. The Upper Yampa Water Conservancy District, which borrowed funds to continue construction in a timely fashion, expects revenues to be generated this year. Your support will allow the District to repay its original loan and avoid additional interest costs.

The last water project I would like to discuss is the Fountain Creek Project being built by the Army Corps of Engineers. This flood control project is important to the people of Pueblo, Colorado who are happy with the Administration's budget request of $1,036,000.

In conclusion, I once again thank you for your commitment to responsible water resource development and use. Without the understanding of this committee's members of the importance of water as a lifeblood of the West, our culture and economy in that region would be vastly different and I believe far less prosperous. Your continued interest and your always-open door make it a pleasure to appear before your commi tee for both me and for my constituents who join me here today.

STATEMENT OF J. WILLIAM McDONALD, DIRECTOR, COLORADO WATER CONSERVATION BOARD

Mr. McDONALD. My name is J. William McDonald, I am director of the Colorado Water Conservation Board. It is my privilege to be testifying today on behalf of the Honorable Roy Romer, the Governor of the State of Colorado. I have submitted a written statement for the record. If that could please be introduced, I would appreciate it.

Senator BURDICK. It will be received in full.

[The statement follows:]

STATEMENT OF J. WILLIAM McDONALD

Summary of Requests

Colorado requests appropriations for the Bureau of Reclamation greater than those set forth in the President's proposed budget, as follows:

	President's Budget	Colorado's Request
	($ in millions)	
(1) Construction		
Animas-La Plata Project	$ 3.72	$ 5.9
(2) Colorado River Salinity		
Construction	$10.70	$18.05
Advance Planning	0	.30
(3) General Investigations		
Atmospheric Water Resources Management	$ 0	$ 4.20

With respect to the Animas-La Plata Project, the President's budget request directs the Bureau to bring its "pre-construction activities ... to a reasonable conclusion" so as to terminate activity on the project for 2-4 years. This contradicts the Colorado Ute Indian Water Rights Final Settlement Agreement, to which the United States is a signatory. Colorado requests the committees to direct that construction activities continue unabated in FY 1990 and thereafter.

Colorado supports the President's budget request for construction funding for the Bureau of Reclamation's Closed Basin, Dallas Creek, Dolores, and Fryingpan-Arkansas projects and for a small reclamation projects loan for the Stagecoach Project.

With respect to the Corps of Engineers' budget, Colorado supports the President's budget request for construction funding for the South Platte River (below Chatfield Reservoir), Westerly Creek, and Fountain Creek flood control projects.

Introduction

This statement is submitted by the Honorable Roy Romer, Governor of Colorado; Mr. Hamlet J. Barry, III, Executive Director of the Colorado Department of Natural Resources; and the Colorado Water Conservation Board, which is the state agency charged with the development of Colorado's water resources.

Bureau of Reclamation (Construction Program)

Animas-La Plata Project. This is a joint Colorado-New Mexico project designed, among other things, to address the water supply problems which confront the Indian reservations in the project area. Other components of the project will serve non-Indian populations in Colorado and New Mexico with municipal water. Finally, project water would significantly strengthen the agricultural economy of southwestern Colorado.

In December, 1986, the United States, State of Colorado, Ute Mountain Ute Tribe, Southern Ute Tribe, and non-Indian water users in southwestern Colorado entered into an agreement settling the Tribes' long-standing reserved water rights claims, thereby avoiding costly and divisive litigation. The necessary implementing legislation--the Colorado Ute Indian Water Rights Settlement Act of 1988 (P.L. 100-585)--was enacted last year.

The linch pin of the settlement is the provision of water to the two Tribes from the Dolores Project, which is to be completed in 1993, and the Animas-La Plata Project, which did not receive its first construction appropriation until FY 1986 even though it was authorized by Congress in 1968 and was to have been built concurrently with the first delivery of water to the Central Arizona Project. The additional water provided by these projects will permit the continuance of non-Indian economies dependent upon existing water supplies, while simultaneously providing the Tribes with the water they need.

In light of the importance of the Animas-La Plata Project to the settlement, the State of Colorado, the San Juan Water Commission (New Mexico), and local Colorado water users have agreed to non-federally finance 38 percent of the cost of the project. Indeed, Colorado has already appropriated all of the money which it is obligated to provide.

As part of the cost-sharing arrangement, the Department of the Interior committed to a 12-year construction schedule for the project. Failure to meet that schedule could unravel the settlement agreement as it pertains to two of the rivers involved. To achieve this schedule, we believe that an appropriation of at least $5.9 million will be needed in FY 1990. The President's budget request seeks only $3.72 million. We ask Congress to honor the United States' commitment to this project, the Tribes, and the state by appropriating the funds needed to maintain a 12-year construction schedule.

We would also like to call the committees' attention to the fact that the President's budget request for the project is not only too little, but it also directs the Bureau to utilize the FY 1990 budget to bring its "pre-construction activities" on the project "to a reasonable conclusion." According to testimony presented to the committees by Administration witnesses, the Administration intends to terminate activity on the project for 2-4 years.

In light of the fact that the United States is a party to the water rights settlement, has committed itself to a 12 year construction schedule, and passed the necessary implementing legislation only six months ago, such a position is untenable. It can only be regarded as an act of bad faith.

Colorado respectfully requests that the committees specifically direct the Bureau to proceed with construction of the project, including acquisition of rights-of-way and land, in FY 1990 with whatever appropriation is forthcoming. It is imperative that Congress make it clear that the project is to go forward in FY 1990, not be wound down, and be continuously under construction thereafter in order to meet the agreed upon construction schedule.

Other On-Going Projects. We urge Congress to maintain the funding requested by the President for construction on four

other on-going projects--the Closed Basin, Dallas Creek, Dolores, and Fryingpan-Arkansas Projects. Each of these is nearing completion and should be a high priority for funding. Furthermore, the Closed Basin Project will benefit both New Mexico and Texas and, as mentioned above, the Dolores Project is an integral component of the Ute Indian water rights settlement.

With respect to the Closed Basin Project, legislation passed last year required non-federal financing for the completion of the project. The Colorado legislature has just enacted a bill to provide the required money and the state is ready to execute a cost-sharing contract with the Bureau of Reclamation. Again, we have met our commitments--we look forward to the United States doing the same.

Bureau of Reclamation (Colorado River Salinity Program)

The seven states of the Colorado River Basin and the federal government have endorsed a coordinated, basinwide approach to the reduction of salinity in the Colorado River. The salinity control units being planned and constructed by the Bureau of Reclamation are an integral component of the overall salinity control program. We would call your attention to the detailed statement being submitted on behalf of the seven basin states, acting through the Colorado River Basin Salinity Control Forum, in which statement Colorado concurs. The Forum seeks, and Colorado supports, the sums set forth in the above "Summary of Requests."

Colorado is particularly concerned about the lack of funding in the President's proposed budget for construction on the Lower Gunnison Salinity Control Unit (winter water system) and the inadequate funding which is proposed for continuing construction on the Grand Valley Salinity Control Unit. In both instances, the state and local water users have, as required by the Bureau, accomplished certain activities and prerequisites in order to enable these salinity control units to go forward.

We have met the schedules requested of us by the Bureau for its benefit. Now, the President's budget reneges on the very schedules to which we were asked to commit. We ask Congress to rectify this situation by appropriating $5 million for the Lower Gunnison Unit and $10 million for the Grand Valley Unit. We have met our obligations. The United States should do the same.

Bureau of Reclamation (Stagecoach Reservoir Project)

Colorado strongly supports the Bureau's Small Reclamation Projects Act program. Several Colorado projects have benefited from this program in the past and we expect to have more candidates in the future.

Of immediate interest is the Stagecoach Reservoir Project on the Yampa River in northwestern Colorado. The State has appropriated $8.0 million to finance nearly half of the project's cost.

We support the President's budget request of $2.437 million for the total remaining amount of the project sponsor's application. This appropriation is needed to complete construction.

Bureau of Reclamation (General Investigations)

We request that funding for the atmospheric water resources management program be restored, especially in the Colorado River Basin. This work, which has long had Colorado's support, is of mutual interest to the seven basin states. It is a long term research and demonstration program aimed at augmenting the water supplies of the river through winter orographic cloud seeding. While eliminating funding for such an effort may be expedient in the short run, it will prove to be short-sighted in the long run since the Colorado River is over-appropriated and will not be able to sustain the demands placed upon it in the future. The joint statement of the seven basin states which has been submitted in this regard has our support.

Corps of Engineers

The sums contained in the President's recommended budget are adequate for the timely execution and continuation of federal flood control projects in Colorado. We would caution, however, that any reduction in these budget requests would unnecessarily jeopardize the lives and properties of many thousands of Coloradans.

We support the President's recommended budget for construction on the Westerly Creek flood control project in Denver and Aurora. This project is needed to enable local governments in the area to solve problems upstream from the proposed federal project, which would be located on Lowry Air Force Base. Those upstream problems cannot be addressed until the federal project goes forward.

Finally, we support the President's budget request for the Fountain Creek flood control project, which addresses major flood control problems in the heart of Pueblo. The solution of those problems will enable redevelopment activities which are of great importance to the economic welfare of that community to go forward.

ANIMAS-LA PLATA PROJECT

Mr. MCDONALD. Thank you. I want to make one principal point today Mr. Chairman and that is that Colorado has been asked by the Federal Government to assume several obligations with respect to Bureau of Reclamation projects in Colorado. We have done that in every single instance. We have literally passed two bills in this session of our legislature to complete those obligations, but now the administration is reneging on the very things that they asked us to proceed with. I would like to touch each of those briefly.

The Animas-La Plata project, as the Congressman has just indicated, is the lynch pin to the Colorado Ute Indian water rights settlement which this Congress enacted only 6 months ago. There were requirements for substantial State cost-sharing in cash for that project. Every dollar of that money has been appropriated and obligated and is available to the Federal Government as we have promised we would do.

We have also been obligated to make contributions to the settlement itself, above and beyond the project. Every one of those dollars is in hand. Part of that commitment was a 12-year construction schedule. The administration's request for $3.7 million is, in our judgment, insufficient to meet that construction schedule and we are as the Congressman indicated seeking congressional appropriation in the amount of $5.9 million.

Perhaps even more importantly, the administration's budget request indicates that the project for fiscal year 1990 should "be brought to a reasonable conclusion." It is my understanding that the Commissioner of Reclamation has testified before this committee several weeks ago that it is the intent of the administration to quite literally stop construction on this project, although it was put in the construction program and has received appropriations every year since 1986.

We obviously are greatly concerned about this. It is simply unconscionable in our view that this project, which is the lynch pin of an Indian settlement, would be stopped for a period of perhaps 2 to 3 years. We would respectfully request that the committee would consider directing the Bureau of Reclamation quite precisely and clearly that this project is not to be closed down but is to be continuously under construction.

LOWER GUNNISON SALINITY CONTROL PROJECT

The second example I would bring to your attention pertains to the lower Gunnison winter water salinity control unit. Pursuant to Federal law there must be a legally cognizable organization under the laws of the State of Colorado with whom the Bureau of Reclamation can contract for the costs of certain part of such a project.

I was specifically requested by the Bureau of Reclamation to organize our farmers in a massive project into such a legal organization. I did so on a schedule that was dictated to me by the Bureau of Reclamation. The administration promptly has failed to ask for funds for that project. They did so last year.

Your committee was kind enough—and we greatly appreciate it—to schedule the funds in the current Federal fiscal year to com-

mence construction activities on that project and it is now a project which is underway.

The administration has again requested no funding, despite the directions of this Congress to the contrary, for the current fiscal year and we would respectfully ask that you consider $5 million to continue on the construction schedule, which again I was asked to meet and I have done so, but the administration has not.

GRAND VALLEY SALINITY CONTROL PROJECT

Third, we have essentially the same situation with the Grand Valley salinity control unit. We have five different irrigation entities there. I was asked to get those folks prepared to deal contractually with the United States. We have done so, but the administration has never sought funding to keep that project on the schedule that I was asked to meet. We would ask that you consider an increase in the appropriation for that project from the $8.2 million that is requested by the administration to a total of $10 million.

Finally, I would simply affirm, as has already been indicated to you, that in legislation passed last year the State was obligated to cost-share in the Closed Basin project and that legislation is quite literally on Governor Romer's desk to be signed later this week and I can assure you that we will move forward with that cost-sharing. We met our obligations and I request that the Congress see to it that the United States does the same.

Mr. CAMPBELL. Mr. Chairman, I would like to proceed now with Leonard Burch, the chairman of the Southern Ute Indian Tribe.

STATEMENT OF LEONARD C. BURCH, CHAIRMAN, SOUTHERN UTE INDIAN TRIBE

Mr. BURCH. Mr. Chairman, on behalf of the Southern Ute Indian Tribe, we have been before this committee many times and we appreciate the efforts that you have bought on us but we, as the Congressman told this committee, have sat down honorably as men across the table to settle an agreement on water rights in our part of the State.

The State government has met their obligation; however, on the Federal part, they have not. They have signed an agreement, a treaty as far as I am concerned, because since 1968 as a representative of my tribe we have been coming before this committee asking for support and funding for the project that we are talking about.

Today, I am again appearing before you after 21 years, Mr. Chairman, asking your support for the construction funds to keep the agreement that we have, signed by the U.S. Government and the State of Colorado and the Indian tribes. So again, Mr. Chairman, I am asking that you give us the word that is kept like we signed on a piece of paper, for the $5.9 million to get the operation going so that my people can have the water that it needs to develop our resource.

Mr. Chairman, thank you.

[The statement follows:]

STATEMENT OF LEONARD C. BURCH

I am Leonard C. Burch, Chairman of the Southern Ute Indian Tribal Council. On behalf of all the members of the Southern Ute Indian Tribe, I renew my Tribe's annual appeal to the United States Congress to appropriate the funds needed to construct the Animas-La Plata Project on a 12-year construction schedule.

We have been patient, we have trusted in the honorable intentions of those in the federal government who have pledged to protect our interests. We have listened to those who promised to help us develop our tribal resources through the wise storage and fair distribution of the water that should serve our reservation and its people. In reliance on those promises, the Southern Ute Indian Tribal Council chose to obtain our reserved water rights by negotiation and legislation, rather than by litigation.

Members of the Tribe, however, have begun to ask how long we must wait. If water projects elsewhere have been funded, why not the Animas-La Plata Project? Did not the United States Government, through its signature on the December 10, 1986 Final Settlement Agreement of the Colorado Ute Indian Tribes' water rights and through the passage of Public Law 100-585, promise that construction of the Animas-La Plata Project would begin? So today we make still another appearance and yet another request for you to meet your commitment to my Tribe.

The President, through his fiscal year 1990 budget, threatens to go back on the commitments made by the federal signers of the Final Settlement Agreement. The federal negotiators agreed that they would support a funding level for the Animas-La Plata Project which would assure a 12-year construction schedule. Without full funding of $11.6 million for fiscal year 1990, we will be denied the promised 12-year construction schedule.

Indian people are no strangers to broken treaties and promises. The Southern Ute Indian Tribe entered into the settlement negotiations to settle the Tribe's reserved water rights in good faith and with honor. Through a long and difficult negotiations process undertaken with good will and determination, the Indians and non-Indians of southwest Colorado were able to conclude the Final Settlement Agreement. In all our negotiations over the rights of the Southern Ute Indian Tribe to the waters of the streams of our reservation, we have given respectful consideration to the needs of non-Indians. We recognize the wisdom and benefits of living in harmony with all. Nevertheless, evidence of good faith must be reflected in the actions of all parties involved. The President's budget does not meet the commitment of the federal government. It is up to this Committee, as it has done in the past, to make certain that the federal government respects its obligations to which it committed as recently as December 1986.

The Southern Ute Indian Tribe depends on the Animas-La Plata Project for water for agricultural and industrial use. Our future as a tribal entity depends on the availability of water in sufficient amounts to enable us to develop what lies on and under the lands allotted to us. Only by making productive use of our resources can we achieve the level of economic independence and self-sufficiency so frequently urged as the ultimate objective of the United States Government.

In time of international crisis, America searches for alternative sources of energy to support its people and its industries. The Southern Ute Indian Reservation is an enormous repository of coal, coal to provide the power

for industry far beyond the boundaries of our tribal lands and beyond the borders of our state. This valuable resource cannot fulfill its potential without significant amounts of water. We look to the Animas-La Plata Project as the Tribe's surest means of making the needed additional water available.

The Animas-La Plata Project resolves not only the Indian water rights claims but also a broad range of water problems, including water augmentation for projected municipal growth and the shortage of irrigation water for our non-Indian neighbors. The Animas-La Plata Project has been carefully studied and analyzed over the years. The Project is widely used as an example of the pioneer concept of neighbor helping neighbor for the benefit of all.

Therefore, I request that this Committee endorse an allocation of $11.6 million in construction monies for the Animas-La Plata Project. Do not let this vital project die. Thank you for considering the needs of the Southern Ute Indian Tribe.

DOLORES AND ANIMAS-LA PLATA PROJECTS

Senator BURDICK. Thank you.

Mr. CAMPBELL. Mr. Chairman, next will be Ernest House, the chairman of the Ute Mountain Ute Indian Tribe.

STATEMENT OF ERNEST HOUSE, SR., CHAIRMAN, UTE MOUNTAIN UTE INDIAN TRIBE

Mr. HOUSE. Mr. Chairman, members of the committee, I am honored to be here this morning to testify before you. My name is Ernest House, Senior. I am the chairman for the Ute Mountain Ute Indian Tribe located in the southwestern part of Colorado.

I am here today to offer the strong support of the Ute Mountain Ute Tribe for the appropriation needed for the Dolores and Animas-La Plata projects. These two water projects are the heart of my tribe's water rights settlement.

The Colorado Ute Tribe's water rights settlement, Public Law 100-585, which was signed into law by President Reagan last November, continuing funding for the Dolores project which is currently 75 percent complete and startup funding of $11.7 million for the Animas-La Plata project, are absolutely essential to complying with the cost-sharing timeline as well as maintaining the integrity of our water rights settlement agreement with the Federal Government.

I am asking you as members of the Appropriations Committee for your continued support as we develop our water resources from the Dolores and Animas-La Plata projects for the advancement of my people, and particularly I am asking for your continued support of appropriation for the Dolores and Animas-La Plata projects.

Again, Mr. Chairman, I thank you for this time. Thank you.

[The statement follows:]

STATEMENT OF ERNEST HOUSE, SR.

I am Ernest House, Chairman of the Ute Mountain Ute Tribe located in southwestern colorado. I am here to day to offer the strong support of the Ute Mountain Ute Tribe for appropriations needed for the Dolores and Animas La Plata Projects. These two water projects are the heart of my Tribe's water rights settlement, the Colorado Ute Tribes Water Rights Settlement Act, Public Law 100-585, which was signed into law by President Reagan last November. Continued funding for the Dolores Project which is currently 75% complete, and startup funding of 11.7 million for the Animas La Plata Project, are absolutely essential to complying with the cost sharing timelines as well as maintaining the integrity of our water rights settlement agreement with the federal government.

Funding for the road and powerline facilities essential to serving the Tribe's Dolores Project irrigated lands also needs to be appropriated, designed, and constructed through the Bureau of Reclamation. I make this request for three reasons. First, the BIA has indicated there is very little likelihood that they will be able to provide the funding through the BIA Irrigation Construction Budget to construct these facilities as the BIA has historically be able to do in similar situations with Tribes. Secondly, the road and powerline facilities are in the same corrider and will be built at the same time as the Towaoc Canal, and could most effectively be designed and built by one entity. Finally, the Bureau of Reclamation is in the business of building water projects, and has the design and inspection expertise to insure the best possible facilities for the Tribe.

Our past and current tribal leaders have testified many times about the critical nature of the Dolores and Animas La Plata Projects and the Water Rights Settlement to the future of the Ute Mountain Ute Tribe. I am pleased to tell you that the initial benefits from the water rights settlement and the Dolores Project are within the Tribe's reach. The municipal and industrial pipeline which is being constructed using funds made available by the State of Colorado through their contribution to the settlement ($6,000,000), is currently under construction and should be completed by spring 1990.

Receiving safe drinking water will allow my people to have for the first time the same high quality drinking water which most americans take for granted. We will have water to realize the full potential of our communities, industrial park and to provide fire protection to the entire community. We will also, for the first time since being placed on our arid, desolate reservation, be able to develop community parks and landscaping around our homes. These are things that other communities take for granted but these opportunities, for my people, offer the promise of a better future.

In 1993 we are scheduled to begin receiving irrigation water from the Dolores Project. Our irrigated acreage will go from less than 200 acres, which is the extent of our

current water supply, to over 7,500 acres. This represents a big expansion, but we are actively getting ready for the economic opportunities that the added irrigation makes possible.

The Tribal Council has consolidated our existing irrigated land and our tribally owned cattle herd into a profit making enterprise structure (Farm and Ranch Enterprise). A farm manager has been hired who has experience in large scale agribusiness, including Indian irrigation projects. With funding assistance from BIA, we have developed an irrigation demonstration project which includes a center pivot and three sideroll sprinkler systems of the type that we will use on the Dolores and Animas La Plata Project lands. In addition to growing cattle feed, we are growing and finding markets for a series of cash crops. Our demonstration project is being totally operated by a Tribal member who is being trained by the Farm Manager.

We have hired a cattle manager with excellant experience to manage our cattle foreman. Our cattle herd has been expanded from 200 head in 1987 to over 400 head currently. We are looking into the potential for developing agriculture processing types of businesses on the reservation such as feedlot operations, etc., in order to expand the economic base of the reservation and provide significantly more opportunities for employment and profit making to our tribal members.

The same team of agricultural managers and Tribal interns are working with a water engineer and
from the water the Tribe will receive from the Dolores and Animas La Plata Projects.

Substantial commitments were made by the Federal, State, Local, and Tribal governments in signing the water rights settlement legislation. These commitments included major financial contributions by the parties to the settlement. Those commitments included funding for the construction of the Dolores and Animas La Plata Projects. I have been informed that the Administration does not intend to live up to the commitments they made in providing the funding necessary for the construction of the Animas La Plata Project, that this funding will be delayed indefinitely. I believe this is a totally inappropriate and unfair position for the Administration to take. The ink is barely dry from the signing of our settlement agreement and yet the federal government is apparently walking away from its responsibility.

The Tribe has made a commitment to not litigate its water rights claims and damages against the federal government so long as the commitments in the settlement agreement are fully realized. My Tribe has waited a century to have the basic and good things which a reliable and safe supply of water can provide. Are we expected to wait another century, to be patient while our children die from alcoholism and drug abuse and other diseases caused by lack of hope and opportunity?

Summary

I ask you as members of the Appropriations Committee for your continued support as we develop our water resources from the Dolores and Animas La Plata Projects for the advancement of my people. In particular, I ask for your continued support of appropriations for the Dolores and Animas La Plata Projects. Additionally, I would request your support for the appropriations necessary for the Bureau of Reclamation to design and construction the road and powerline facilities necessary to serve the Tribe's Dolores Project lands. Thank you for your support and understanding.

Mr. CAMPBELL. Mr. Chairman, next will be Fred Kroeger who just a couple of years ago was named the outstanding citizen of Durango, CO, for his work on the Animas-La Plata project. He has been very active for a number of years with this project and represents the Southwest Water Conservancy District.

Senator BURDICK. I would like to tell the panel that there is a vote on in the Senate right now and I will have to adjourn for a few minutes and I will be back here in about ten minutes. We will be in recess until that time.

[A brief recess was taken.]

Senator REID [presiding]. The subcommittee will come to order. Congressman Campbell, welcome. It is nice to see you.

Mr. CAMPBELL. Thank you, Mr. Chairman.

Senator REID. As everyone knows, we are late. We had a vote that threw things off. We know that everything you have to say is important, but if you could summarize your statements even more than you had anticipated, it would appreciated.

Mr. CAMPBELL. Mr. Chairman, I appreciate you sitting in and chairing this committee. We have already had testimony from some of my friends and colleagues from the southwest part of Colorado relating to the Animas-La Plata project and we were just about to start with Mr. Fred Kroeger, who has worked on the Animas-La Plata project, as I told Senator Burdick, for over 40 years and probably knows more about that project than anybody in our part of the State and just when you got a call to vote, he was just about to proceed. So if I could ask your indulgence for him to proceed, I would appreciate it.

Senator REID. Please proceed.

DOLORES PROJECT, COLORADO

STATEMENT OF FRED V. KROEGER, PRESIDENT, SOUTHWESTERN WATER CONSERVATION DISTRICT OF COLORADO

Mr. KROEGER. Thank you, Mr. Chairman. I am Fred Kroeger from Durango, CO, and I am the president of the Southwestern Water Conservation District. We represent nine counties, seven rivers, and eight water conservancy districts in that part of southwest Colorado.

I am here today to support the administration's budget request for the Dolores River. This is adequate, I think and the Dolores project is coming along and we urge you to support the administration's request on that project.

In behalf of the Animas-La Plata, we have some rather serious challenges, I think. We are already 1 year behind a program that was put in place last year by Congress, signed by the President, and it requires an absolute minimum of $5.9 million in fiscal year 1990 to even stay on schedule at this point and yet the administration appropriated only $3.7 million for this.

Our Indian water rights settlement with the two Ute Tribes of Colorado require a 12-year—a year 2000 completion date and there is no way we can do this if the administration goes on with their plan to delay or hold back activity for 4 years and then try to make this up. This would be extremely difficult in the economy of that community to put those kind of dollars in and it does not comply with the requirements of the contract, the settlement that was passed last year.

In addition to that, that settlement asked for $19.5 million for the two Ute Tribes as development funds for fiscal year 1990 and $15 million each in 1991 and 1992 and the President's budget put in only $5 million, so I am going to conclude with that, but I urge this committee to give consideration to the agreements that were made only 6 months ago and already we are falling behind.

Thank you very much.

Senator REID. You are welcome.

[The statement follows:]

STATEMENT OF FRED V. KROEGER

I am Fred V. Kroeger, of Durango, Colorado. I am here to request funding for the Animas-La Plata Project sufficient to keep the Project on its 12-year construction schedule.

I am President of the Southwestern Water Conservation District of Colorado and I have been a member of that Board for 38 years. I was honored to serve on the Colorado Water Conservation Board for 21 years and I am a life-long resident of southwestern Colorado. I am therefore familiar with water projects in Colorado.

In my opinion, the Animas-La Plata Project exemplifies the best of Bureau of Reclamation, multiple use water resource development projects. Not only does this Project provide for the settlement of the Colorado Ute Indian Tribes' reserved water rights claims, the Project provides needed agricultural water for the non-Indian communities of southwest Colorado, provides a stable domestic supply of water for cities in Colorado and New Mexico, and provides vital economic development potential for the area through the creation of new jobs and the creation of a major recreational reservoir.

The Animas-La Plata Project will change a dream into a reality. For over 50 years, farmers, ranchers, cities, towns, Indians and non-Indians have pursued the dream of enjoying the beneficial use of the water resources of the Animas and the La Plata Rivers. Through good times and bad times, the Indian and non-Indian water users of southwestern Colorado have cooperated in pursuit of this dream. With the construction of the Animas-La Plata Project, the reality will be a sufficient water supply for all in the San Juan Basin of southwestern Colorado and northwestern New Mexico.

We, in southwestern Colorado and northwestern New Mexico, are entitled to this reality. That entitlement comes as a result of the many compromises and sacrifices that we have made in times past when Congress was considering such legislation as the Colorado River Storage Project Act of 1956 and the Colorado River Basin Project Act of 1968. The 1956 Act authorized the Animas-La Plata Project as a participating project and the 1968 Act authorized the construction of the Project on a schedule concurrent with that of the Central Arizona Project. We have stood in line with our Indian friends for a long time. We now feel that we have rightfully taken our place at the head of the line.

The Central Arizona Project affords an example of the fulfillment by the United States Government of its commitment to assure adequate municipal, industrial and irrigation water to the region encompassed by the project. In contrast, the Animas-La Plata Project has just reached the stage of initial construction. Despite the years of effort devoted to feasibility studies, environmental statements and the Definite Plan Report, the Animas-La Plata Project remains the orphan of the water reclamation family. Our communities have endorsed the Project and our legislature has approved all required state funding. We desperately seek the federal support required to move the Project into the realm of reality. We in southwestern Colorado and northwestern New Mexico deserve to have our dream, and the federal government's commitment, fulfilled.

The Final Settlement Agreement of December 10, 1986, which quantifies the Southern Ute and Ute Mountain Ute Indian Tribes' reserved water rights is an historic example of what can be accomplished by compromise and cooperation. We are proud of our achievement. We are aware of the bitter disputes in other parts of the west over Indian water rights claims. What

we have achieved is a win-win situation for both Indians and non-Indians, a victory for all in southwestern Colorado. It is a well thought out, reasonable and equitable agreement which divides the use of the waters in the San Juan Basin in a manner beneficial to all.

The State of Colorado, the Ute Indian Tribes, the water users of southwest Colorado, and the federal government will all benefit from the construction of the Animas-La Plata Project. The Final Settlement Agreement will enable the two Ute Tribes to develop their agricultural, municipal and industrial potential on each of the streams which cross the reservations in an orderly fashion with the certainty of a well-defined supply of water. The quantification and resolution of the Tribes' Winters water rights claims will also bring certainty to the non-Indian water users in southwestern Colorado. The Project will enable both Indian and non-Indian water users in southwestern Colorado to beneficially utilize their fair share of the waters of the Colorado River and its tributaries. The Project will allow the federal government to honor its commitments to the Indian people made in treaties and agreements which were signed over a hundred-twenty years ago. All parties will avoid costly and divisive litigation over the nature and extent of the Tribes' reserved water rights claims. Finally, the state of Colorado will continue the responsible tradition of cooperating with its Indian citizens for the mutual benefit of both the state and the Indian tribes. The voters within the Animas-La Plata Water Conservancy District recognized the value of the Project to all concerned, and resoundingly supported the Bureau of Reclamation Repayment Contract with the District.

Our $11.6 million request for the Animas-La Plata Project represents money to be spent for the long-awaited start of construction of the Project. The $8 million increase over the President's fiscal year 1990 budget request is vital to satisfy the commitment of the federal government made as a part of the Final Settlement Agreement to fund this Project at a level which would support a 12-year construction schedule.

I must also stress to you the value of the Dolores Project which is on the way to completion. It is the President's policy to fund water projects which are substantially completed to enable construction to be finished as quickly as possible. An expenditure of $41 million is required to keep the Dolores Project on its current construction schedule. On behalf of the Dolores Project, I request that the Bureau's full construction capability of $41 million be appropriated. Neither the Animas-La Plata Project nor the Dolores Project should be forced to proceed at less than full speed. These projects are vital to the economy of southwestern Colorado.

Thank you for your assistance in the past and your consideration of our current requests. The people in southwestern Colorado correctly perceive this committee will be of invaluable assistance in resolving our water problems.

Mr. CAMPBELL. Mr. Chairman, next will be Larry Deremo. He is a board member of the Dolores Water Conservancy District in Cortez, CO.

DOLORES PROJECT, COLORADO

STATEMENT OF LARRY DEREMO, MEMBER, BOARD OF DIRECTORS, DOLORES WATER CONSERVANCY DISTRICT

Mr. DEREMO. Mr. Chairman and the committee, my name is Larry Deremo. I am a farmer in the Dove Creek Area. I am a Board Member of the Dolores Water Conservancy District.

First of all I would like to thank this committee for the funds that they have provided for us, for the Dolores Project. We are approximately 75 percent complete. We have the necessary funding for the operation for fiscal year 1989 to complete the project on out through the area where I will get water.

We are very concerned about the Indian Water Rights Settlement that was signed last fall. The Indian Tribes need the money for development as we will be providing water for them before their development is completed.

We also support the Animas-La Plata project. We think that they need their money to stay on line with the project. The $42 million recommended by President Bush is the amount that we need to follow through with our project.

Again, I would like to thank you, for the Dolores Board, for your support in our project.

[The statement follows:]

STATEMENT OF LARRY DEREMO

INTRODUCTION

My name is Larry Deremo. I was raised in Dolores County. Except for a tour of duty in the United States Army during the Korean Conflict, I have farmed there all of my life. Presently my wife, Joan my two sons, Lyle and Rick, and I operate several farms. The principal crops we raise are pinto beans, wheat and alfalfa. My residence is in the small town of Dove Creek, Colorado, where I served several years as town councilman. It is from these constituencies and perspectives that I was appointed to be a member of the Board of Directors of the Dolores Water Conservancy District in July of 1986. By lease arrangement, I am a farmer in the, yet to be constructed, Dove Creek Block of the "full service area" of the Dolores Project.

SUMMARY

1. The Project is 65% complete. There are 6 contracts being administered in FY "89". There will be 10 in FY "90".

2. The Project schedule requires and it can efficiently use the President's recommended appropriation of $42.5 million in FY "90".

3. We join the many other voices in requesting additional funding for the Animas-La Plata Project, which would effectuate the Ute Indian Water Rights Agreement.

TESTIMONY

Thank the Committee for Accomplishment to Date: Mr. Chairman, and members of the Committee, the drought of 1988 did not impact Southwest Colorado to the extent that it did many other areas of the Nation. However, we appreciate the fact that without the leadership of this Committee and the funds you have so generously provided and therefore without the Dolores Project and McPhee Reservoir "88" would be vividly remembered as a dry dry year. We in Southwest Colorado, thank you for the Dolores Project.

Report on Construction Progress: When construction of the Dolores Project is complete in 1994, its waters will serve the following uses: Agricultural irrigation will serve 35,500 acres of "full service" lands, including 7,500 acres

for the Ute Mountain Ute Tribe, 33,500 acres of "supplemental service" lands, municipal and industrial water for more than 17,000 people in Dolores and Montezuma Counties, 25,000 acre feet of water for a "gold medal" fishery below McPhee Reservoir, and 4,700 acres of "flat water" boating and recreation, with first class boat docks, fishermen access points and campgrounds to enhance the experience. 72% of the Project is complete. Water began to flow to users, from McPhee Reservoir in 1986. All of the above mentioned benefits are already being realized except agricultural deliveries to 14,000 acres of non-Indian land and 7,500 of Indian land.

Development of newly irrigated "full service" lands began during the summer of 1987. By the end of the "88" irrigating season, 45 landowners had installed 126 sprinkler system and are irrigating 5,500 of the first served 14,000 acres. A phenomenal rate of development! The prophesied, anticipated and expected positive economic impact of a Reclamation water project is now happening on the Dolores. It is happening in terms of more production, more ag dollars, better financial statements, active real estate market, higher land prices and happier farmers. Incidentally, "double dipping" is not an issue on the Dolores Project, because there were NO "surplus crops" grown on our Project in "88".

Concur with the President's request: The $42.5 million recommended by President Bush will adequately fund construction to enable the next 10,000 acres to begin irrigation by 1991, to move toward completion of the Dove Creek portion (my area) of the project, to provide for computerization to efficiently operate the entire project, to begin construction of the two power plants, to finish the road re-location component, to begin the canal delivery system to the Ute Indian Tribal lands, which will fulfill the Dolores Project's commitment to the Indian Water Rights Settlement Agreement.

Request Adequate Funding For Animas-La Plata Project: Water from both the Dolores and Animas-La Plata Projects are

key components of the Ute Indian Water Rights Settlement Agreement. As I just mentioned, it now seems that the Dolores portion of that agreement will become reality. In light of President Bush's inadequate request for funding for construction of the A-LP Project, the Dolores Water Conservancy District is gravely concerned that agreed upon construction schedules and water deliveries can not be maintained, which would jeopardize the foundation of the Settlement Agreement. That would adversely impact, not only the Animas-La Plata area, but all of Southwest Colorado. Therefore, Mr. Chairman we urge this Committee to recommend adequate funding to commence construction of that Project.

CONCLUSION Mr. Chairman, thank you for this opportunity to testify before your Committee. Again, I thank you and this Committee for its past support of the Dolores Project. I respectfully request appropriation of $42.5 million for FY "90", for the Dolores Project, which would be consistent with President Bush's request. I join with many others in requesting $6.2 million, which will adequately fund the A-LP Project.

ANIMAS-LA PLATA PROJECT

STATEMENT OF TOM COLBERT, COUNTY COMMISSIONER, MONTEZUMA COUNTY, CO

Mr. CAMPBELL. The last person to testify will be Tom Colbert, who is the county commissioner for Montezuma County.

Mr. COLBERT. Mr. Chairman, members of the committee, I appreciate being able to be here today to talk to you on behalf of the folks from Montezuma County, who have a large stake in what happens with this legislation and whether or not it is completely funded.

Our support has extended over the last 100 years of the Mancos Valley to some kind of a settlement for the longstanding treaty that was made in 1868 with the Ute Mountain and Southern Ute Tribes.

The Animas-La Plata is an old project. In fact, it is 20 years old. The settlement treaty is at least 120 years old and immediately after the treaty was established the United States allowed homestead and development of waters on the same waters that they had given to the tribes.

Senator REID. I am going to have to interrupt you. There has been—not only do we have a problem but the House has just announced a vote.

Mr. CAMPBELL. Well, Mr. Chairman, Tom's was the last testimony. We will put it in the record.

[The statement follows:]

STATEMENT OF TOM COLBERT

I am Tom Colbert, and I am offering my testimony on behalf of the Mancos Valley Water Users. The people in the Mancos Valley have a large stake in the Animas-La Plata Project and the Colorado Ute Indian Water Rights Settlement Act, signed into law November 3, 1988. More than 80 years ago, the United States Government opened up the Mancos Valley for homesteading, and for that entire period of time, the federal government has allowed a conflict to develop over reserved Indian water rights by encouraging non-Indian water development and by overlooking Indian water development.

The Ute Mountain Ute Indians have water rights which are senior to those of the non-Indian water users in the Mancos Valley. We non-Indians have made investments in good faith to put the water which our grandfathers first diverted to beneficial use. Jackson Reservoir, built in the 1940's by the U.S. Government,

However, since 1972, when the federal government first filed claims for Indian water rights in the San Juan Basin of Colorado, there has been a great uncertainty about the validity of our water rights versus those of the Indian rights. We face the loss of our investment and our livelihood to senior Indian rights. It was for this reason that we urged a negotatiated settlement of the water rights disputes. Litigation clouds non-Indian rights, prevents development, adversesly impacts real estate values and causes hostility between Indian and non-Indian neighbors. The negotiated settlement which we have successfully pursued, as embodied in the 1986 Colorado Ute Indian Water Rights Settlement Agreement, allowed us to adopt a flexible process for resolving the disputes between Indians and non-Indians. The Agreement recognizes the rights of the non-Indians to continue to use their water as they have in the past. The Ute Mountain Ute Indian Tribe was willing to subordinate their senior rights to our vested rights in return for other valuable considerations, both in terms of money and water. This type of flexibility is not possible in a litigation setting.

We in southwestern Colorado do not want to have a water war which will not bsenefit either side. We recognize and believe that the Indians, whose rights are senior to those of most non-Indians, have been deprived of opportunities in economic gain which could have come from being able to put the water to which they have rights, to beneficial use. At the same time, the Indian tribes have recognized from the beginning the need to cooperate and recognize the good faith investments and long-term utilization of the water by their non-Indian neighbors. Passage of this legislation promised that the Indian tribes would have every opportunity to maximize their economic benefits and fulfill their goal of becoming viable, self-sufficient and self-sustaining communities. This legislation, when fully funded, will fulfill the federal government's trustee obligation to the tribes and avoid massive potential damage claims for breach of trust responsibility on behalf of the Indians, and also potential claims for compensation for lost rights from non-Indians.

Both the Indians and non-Indians in southwestern Colorado are entitled to have their water rights determined with certainty. The certainty will facilitate economic growth both on and off the reservation, and will allow both Indian and non-Indian to continue to live side by side as friends and neighbors, not as constant competitors for a too short supply of water.

We ask for your support in making this settlement become a reality by keeping to the time schedule that was agreed upon for construction of the Animas-La Plata Project. All parties to the settlement believed that upon signing of the agreement and passage of the bill last year, the integral parts of the settlement would be funded. The State of Colorado has fulfilled, as recently as last week, all of its commitments to cost-share both the project and the tribal development funds.

I join my friends from southwestern Colorado in asking you to help the federal government meet its responsibilities to both the Tribes and the non-Indian water users.

ADDITIONAL PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Senator REID. I would just say to you people from Colorado, I am interested in Colorado. I have a daughter that teaches elementary school in Denver and I work very closely with your Congressman. He does an outstanding job. If anybody can get the money, it will be Congressman Campbell.

Mr. CAMPBELL. Mr. Chairman, thank you. Coming from the State of Nevada I am sure you are aware of how badly we need to conserve and store water, so we do appreciate your sensitivity and than you for chairing us.

Senator REID. We appreciate your attendance and the other statements you have submitted will be made part of the record.

[The statements follow:]

STATEMENT OF GOV. GARREY CARRUTHERS OF NEW MEXICO

SUMMARY

This statement is submitted in support of appropriations for the construction and operation and maintenance of water resources projects authorized to be built by the Bureau of Reclamation and of appropriations for additional project investigations by the Bureau.

The President's fiscal year (FY) 1990 budget proposal for water resource projects of the Bureau of Reclamation in New Mexico and other states in which New Mexico has an interest should be increased for some projects to permit timely and efficient construction schedules and to provide measures to assure salinity control of the Colorado River. Specifically I urge that the President's budget be increased for the following projects to the total amounts listed.

Animas-La Plata Project.....$5.9 million.
Colorado River Basin Salinity Control,
Title II..... $19.55 Million.

I fully support the President's FY 1990 budget proposal for all other water resource projects of the Bureau of Reclamation that are of interest to New Mexico.

STATEMENT

Colorado River Storage Project and Participating Projects

The Colorado River Storage Project Act, which became law in 1956, authorized a carefully planned and farsighted program for the development and use of waters of the Upper Colorado River Basin. To carry this program forward, the President has recommended that $190.001 million be appropriated to the Bureau of Reclamation for FY 1990. That recommendation includes $3.27 million for the Animas-La Plata Project in Colorado and New Mexico but conditions that appropriation as follows:

> Preconstruction activities and acquisition of office space and equipment initiated in prior years will progress to a reasonable conclusion. For purposes of this budget submission, construction of this project is not contemplated within the 1990-1994 budget period.

I strongly urge that this restriction on expending funds for this project be removed in its entirety and that the appropriation be increased to a total of $5.9 million for fiscal year 1990.

The Animas-La Plata Project, authorized for construction as a participating project in 1968, would provide municipal and industrial water supplies for communities in New Mexico and Colorado, irrigation water supplies for use in both states and a basis for settlement of the water rights claims of the two Ute Indian Tribes in Colorado.

Following intensive discussions and negotiations in 1985 and 1986, two highly significant agreements were reached in 1986 with respect to the construction of the Animas-La Plata Project. On June 30, 1986, a cost-sharing agreement was signed by the United States and the non-federal entities providing for construction of

the Animas-La Plata Project and the sharing of the cost of that construction. On December 10, 1986, an Indian water rights settlement agreement was signed by the two Colorado Ute Indian Tribes, the State of Colorado and other affected entities in that State. With these two agreements consummated, the project moved a significant step toward construction.

In 1988, the Animas-La Plata Conservancy District in Southwest Colorado agreed to a repayment contract with the United States, Department of the Interior, under which it will advance $19.494 million for a portion of the non-federal share of the cost of construction.

The San Juan Water Commission in New Mexico has been engaged in and has nearly completed negotiation of a contract with the Department under which the Commission would agree to provide $12.8 million during construction of the project. In addition, the State of Colorado has undertaken construction of the Towac Pipeline to supply domestic water to the Ute Mountain Ute Indian Reservation at an estimated cost of $6.0 million pursuant to the commitment that the State undertook in the June 30, 1986, cost-sharing agreement. Thus, the non-federal entities are living up to the commitments undertaken in the June 30, 1986, cost-sharing agreement. The agreement also contemplates a construction period of 12 years from the date of the agreement; the United States must begin now to undertake its commitments. This project has been long delayed in its construction and should be implemented by an appropriation of $5.9 million to the Bureau of Reclamation for fiscal year 1990 and the condition on expenditure funds for this project in the President's budget recommendation should be removed. I urge and support an increase in the FY 1990 budget to a total of $5.9 million for the Animas-La Plata Project with no restrictions on use of construction funds for this project as was proposed in the President's budget for FY 1990.

I fully support the remainder of the President's FY 1990 budget proposal for the Colorado River Storage Project and participating projects.

Central Arizona Project

The Colorado River Basin Project Act, Public Law 90-537, which became law in 1968, authorized construction of the Central Arizona Project in Arizona and New Mexico. The President's FY 1990 budget proposes $204.755 million to continue construction of this project including $15.932 million for the non-Indian distribution system. All of the construction proposed in the FY 1990 budget is in Arizona. The Hooker Dam and Reservoir unit or suitable alternative in Southwestern New Mexico is authorized for construction as a unit of the Central Arizona Project. I support the President's FY 1990 proposed budget for funding the Central Arizona Project.

Closed Basin Division, San Luis Valley Project, Colorado

The President's FY 1990 budget includes $7.755 million for continued construction of the Closed Basin Division. This project will assist Colorado in meeting its Rio Grande Compact obligation at the Colorado-New Mexico State Line. The work proposed under the FY 1990 budget will include continuation of stage 3 and stage 4 laterals and acquisition of lands for wildlife mitigation, phases 5 and 6 transmission systems, public use recreational facilities and other associated project features. I fully support the President's FY 1990 budget in the amount of $7.755 million for this project.

Brantley Dam and Reservoir

The President's FY 1990 budget includes $3.286 million for miscellaneous minor contracts to complete construction of the Brantley Dam and Reservoir Project in New Mexico. The primary purpose of this project is to provide flood protection in the vicinity of Carlsbad. The Brantley Dam will replace the unsafe McMillan Dam, which was reconstructed by the Bureau of Reclamation in 1908, and will provide capacity for storage of flood waters. I fully support the President's FY 1990 budget proposal in the amount of $3.286 million for this project.

Velarde Community Ditch

The President's FY 1990 budget includes $7.25 million for continued rehabilitation of canals and canal structures on this project. The project, located on the Rio Grande just north of Espanola, will provide a rehabilitated diversion and delivery system to serve the irrigated lands in the area. The diversion dams to divert waters of the Rio Grande have been completed. I support the President's FY 1990 budget proposal for this project.

Colorado River Salinity Control Project, Public Law 93-320, Title I.

The President's FY 1990 budget includes a total of $19.06 million for continued construction of the Yuma Desalting Plant and mitigation measures. The Yuma Desalting Plant was authorized by Public Law 93-320 to implement Minute 242 of the International Boundary and Water Commission. I support the President's FY 1990 budget proposal for this program.

Colorado River Basin Salinity Control, Public Law 93-320, Title II and Colorado River Water Quality Improvement Program

The President's FY 1990 budget includes $10.7 million for continued construction of two salinity alleviation units authorized by Title II of Public Law 93-320, the Grand Valley and Paradox Valley Units, both in Colorado. The President's budget does not include any funds for construction of the Lower Gunnison Winter Water Unit in Colorado.

The Colorado River Basin Salinity Control Forum, comprised of representatives of all of the seven Colorado River Basin States, has carefully reexamined all of the features needed to control the salinity of the Colorado River and has concluded that the President's budget is not adequate to ensure that the water quality of the Colorado River will be maintained to the numeric criteria set at Imperial Dam in the Lower Basin with continued depletion of the Compact apportioned waters. The Forum has concluded that a total of $18.050 million in construction funding is essential to maintain adequate levels of salinity control. This amount is composed of $10.0 million for continuation of canal and lateral lining in the Grand Valley Unit, $3.0 million for continuation of the brine disposal facilities in the Paradox Valley Unit, $5.0 million for construction of the Lower Gunnison Winter Water Unit and $0.050 million to monitor the Las Vegas Wash area in Nevada. The appropriation of $5 million for construction on the Lower Gunnison Winter Water Unit would allow construction to begin on one of the most cost-effective salinity control features now available to the Colorado River Basin Salinity Control Program. In the last fiscal year the Congress appropriated funds for the design of works and the Bureau of Reclamation has completed the design and the unit is now ready for construction. I support an increase of $7.35 million in the President's FY 1990 budget to a total of $18.05 million for construction of Colorado River Salinity Control, Title II, features.

The President's FY 1990 budget does not include funds for advance planning of the potential Lower Virgin Unit of the Colorado River Quality Improvement Program. The Forum supports appropriations in the amount of $300,000 for advance planning of the Lower Virgin Unit in Utah. I fully concur with this recommendation of the Colorado River Salinity Control Forum.

I fully support the President's budget for $1.235 million for plan formulation of potential salinity control units in the Price-San Rafeal basin and the Uintah Unit, both in Utah, and in the San Juan Basin in New Mexico and miscellaneous general investigations.

Operation and Maintenance Program

I support the President's FY 1990 budget for operation and maintenance for the following Bureau of Reclamation projects in New Mexico and adjacent states in which New Mexico has an interest:

Brantley Project; $100,000,
Carlsbad Project; $29,000.
Middle Rio Grande Project; $9,683,000.
Pecos River Basin Water Salvage Project; $300,000
Rio Grande Project; $740,000.
Grand Valley Salinity Control Unit; $290,000.
Paradox Valley Salinity Control Unit; $589,000.
Closed Basin Division San Luis Valley Project; $1,663,000.

The opportunity to present this statement in support of appropriations for the Bureau of Reclamation is sincerely appreciated.

STATEMENT OF DENNIS B. UNDERWOOD, EXECUTIVE DIRECTOR, COLORADO RIVER BOARD OF CALIFORNIA

Your support and leadership is needed in securing adequate Fiscal Year 1990 funding for the Department of the Interior with respect to the federal/state Colorado River Basin salinity pollution control program. This program is carried out pursuant to the Colorado River Basin Salinity Control Act and the Clean Water Act. California's Colorado River water users are presently suffering economic damages estimated at about $250 million per year due to the river's salinity, and those damages are expected to double by the turn of the century without salinity control.

The President's proposed 1990 federal budget provides $10,700,000 for construction and $1,235,000 for plan formulation, or a total of $11,935,000 for the Department of the Interior's Colorado River Basin salinity control activities. The Basin states, which cost-share with the federal government up to 30 percent of the construction costs of Interior's salinity control measures, have carefully evaluated the federal funding needs of the program and concluded that the President's budget is inadequate to ensure that future violations of the water quality standards for salinity and further salinity pollution will not occur.

The seven Colorado River Basin states, acting through the Colorado River Basin Salinity Control Forum, have concluded that the construction schedule for the Department of the Interior's salinity control units outlined in the state-adopted and federally-approved plan of implementation for maintaining the river salinity standards necessitates a Fiscal Year 1990 construction appropriation of $18,050,000. In addition, there needs to be an appropriation of $300,000 for advance planning to further work on other units scheduled for implementation. On a favorable note, the President's proposed funding for plan formulation is consistent with the $1.2 million recommended by the Forum. The total recommended Fiscal Year 1990 funding for Interior's Colorado River Basin salinity control activities is $19,550,000.

Of particular concern with respect to the President's deficient funding for construction is the lack of funding for the Lower Gunnison Basin Salinity Control Unit-Winter Water Program in Colorado. The winter water program of this unit is the most cost-effective salinity control measure in the plan of implementation for the Department of the Interior. For Fiscal Year 1989, the Congress appropriated $250,000 for construction design for the winter water program. It is imperative that $5,000,000 be appropriated in 1990 so that construction on this most cost-effective unit can begin as scheduled.

The other required appropriations for construction are $10,000,000 for continued canal and lateral lining for the Grand Valley Salinity Control Unit in Colorado, $3,000,000 for the continuation of construction of deep well injection facilities at the Paradox Valley Salinity Control Unit in Colorado, and $50,000 for salinity monitoring at the Las Vegas Wash Unit in Nevada.

At its March 15, 1989 meeting, the Colorado River Board of California, the state agency charged with protecting California's interests and rights in the water and power resources of the Colorado River System, formally adopted, by unanimous vote, the attached resolution supporting the recommended 1990 federal funding of $19,550,000 for Interior's Colorado River Basin salinity control activities.

The Colorado River is, and will continue to be, a major and vital water resource for California. Preservation of its quality through an effective salinity pollution control program will avoid the additional economic damages to river users in California that are expected by the turn of the century without salinity control.

The Board greatly appreciates your past and continued support of the federal/state Colorado River Basin salinity pollution control program and again asks for your assistance and leadership in securing the recommended funding for this vital program.

Resolution
of the
COLORADO RIVER BOARD OF CALIFORNIA
Regarding
1990 FEDERAL FUNDING FOR
DEPARTMENT OF THE INTERIOR COLORADO RIVER
BASIN SALINITY CONTROL ACTIVITIES

WHEREAS, the Colorado River Board of California is the State agency charged with protecting the rights and interests of the State, its agencies and citizens in the water resources of the seven-state Colorado River System; and

WHEREAS, the Colorado River is a major and vital water resource for California, the six other Basin states, and Mexico; and

WHEREAS, Colorado River salinity pollution has been a long-standing interstate and international problem; and

WHEREAS, Colorado River water users in the Basin states are suffering economic damages estimated at about $300 million per year due to the river's salinity and those damages can be expected to double by the turn of the century without salinity control; and

WHEREAS, the Colorado River Basin Salinity Control Forum, composed of Governor-appointed representatives from each of the seven Colorado River Basin states, was organized in 1973 as a mechanism to establish water quality standards for salinity and to promote interstate cooperation in implementing basinwide measures to control the river's salinity pollution; and

WHEREAS, Colorado River salinity standards, including a program of implementation to control salinity pollution, have been adopted by the seven Basin states and approved by the Environmental Protection Agency; and

WHEREAS, Congress, in support of a federal/state basinwide program to control the river's salinity pollution, enacted the Colorado River Basin Salinity Control Act in 1974 and amended the Act in 1984; and

WHEREAS, the federal/state cooperative Colorado River Basin program for control of salinity pollution is cost shared with nonfederal interests, 30 percent nonfederal funding for the Department of the Interior's salinity control activities;and

WHEREAS, significant progress has been achieved in controlling salinity pollution through the active partnership of the Basin states and the federal government in accordance with the Colorado River Basin Salinity Control Act and the Clean Water Act; and

WHEREAS, the continued success of the federal/state salinity control program depends on the timely implementation and funding of the salinity control measures outlined in the States' adopted and EPA-approved plan of implementation to control Colorado River salinity pollution; and

WHEREAS, the President's proposed 1990 federal budget excludes funding for one of the most cost-effective salinity control units scheduled for implementation, the Department of the Interior's Lower Gunnison Basin, Winter Water Program, and makes an overall 29 percent reduction in the Department of the Interior's salinity control activities from that enacted in 1989; and

WHEREAS, the President's proposed 1990 federal funding for the Department of the Interior's Colorado River salinity control activities is inconsistent with the program of implementation for salinity control and would result in further salt pollution of the river, increase economic damages to the users of Colorado River water in the United States and Mexico, and may result in the failure to maintain the river's salinity standards in the future.

NOW, THEREFORE, BE IT RESOLVED THAT the Colorado River Board of California strongly supports the recommendations of the Colorado River Basin Salinity Control Forum and Advisory Council with respect to the necessary level of 1990 federal funding for the Department of the Interior to maintain an effective Colorado River salinity pollution control program:

	Forum and Advisory Council Recommendations	President's Budget
Department of the Interior		
Plan Formulation	1,200,000	1,235,000
Advance Planning		
Uinta Basin Stage I, Utah	300,000	0

Construction		
Grand Valley Unit, Colorado	10,000,000	8,239,000
Paradox Valley, Colorado	3,000,000	2,461,000
Las Vegas Wash Unit, Nevada (monitoring only)	50,000	0
Lower Gunnison Basin Unit Winter Water	5,000,000	0
Total, Department of the Interior	$ 19,550,000	$ 11,935,000

BE IT FURTHER RESOLVED THAT the Colorado River Board of California wishes to express its deep appreciation for the unwavering Congressional support that has been given to the Colorado River Basin salinity pollution control program over the years and urges members of Congress to continue to provide the support and leadership needed to ensure that the Department of the Interior receives sufficient funding in 1990 and beyond to maintain the integrity of this vital federal/state program and permit its continued and timely implementation.

Unanimously adopted on March 15, 1989.

State of California)
) ss.
City of Los Angeles)

I, DENNIS B. UNDERWOOD, Executive Director of the Colorado River Board of California, do hereby certify that the foregoing is a true copy of a resolution adopted by said Board at a Regular Meeting thereof, duly convened and held in Los Angeles, California, on the fifteenth day of March 1989, at which a quorum of said Board was present and acting throughout.

Dated the fifteenth day of March 1989.

DENNIS B. UNDERWOOD
Executive Director

STATEMENT OF ED TONER, SOUTHWESTERN WATER CONSERVATION DISTRICT OF COLORADO

I am Ed Toner. I am Secretary/Treasurer of the Board of Directors of the Southwestern Water Conservation District of Colorado.

It is an honor to be allowed this chance to join fellow Coloradoans in an appeal for money for the Animas-La Plata Project. The Project will provide a new lease on life for farmers and ranchers of our region. These days you quite often hear the phrase "the plight of the American farmer." It is the farmer who used to be called "the backbone of American prosperity," but who today finds that his fate and future are in the hands of bankers, commodity brokers, and a great number of middle men, all of whom may have good intentions but who nevertheless combine to make farming a precarious enterprise. The farmer's plight is bad enough with all these factors and factions to deal with, but in southwestern Colorado an even more fundamental obstacle to the good life in the farm and ranch business is the problem of scarce water. And really, that is why I am here today to ask for your help.

It is in your power, I am told, to take a major step toward providing the funds needed to cure the plight of the "Dry Side" farmers and ranchers of La Plata County. Moreover, in eliminating the plight of these hard-working but often discouraged farmers, you will also help improve the lives of many others. The Animas-La Plata Project will send additional water to the Southern Ute Indian Tribe to develop their energy production. It will help the folks downstream in New Mexico by giving them sorely needed agricultural, municipal and industrial water, and it will provide a crucially required increase in water for domestic use in the city of Durango. By ensuring a reliable source of water for our Indian neighbors - the Southern Utes and the Ute Mountain Utes - the Animas-La Plata Project will relieve non-Indian ranchers and farmers of yet another worry; namely, that of dealing with contested water rights.

Finally, I think it would be an oversight not to mention that both the reservoirs planned for the Animas-La Plata Project (the Ridges Basin Reservoir and the Southern Ute Reservoir) will provide facilities for accommodating the increasing demands for outdoor recreation. Camping, swimming, boating, fishing and hiking - the relatively inexpensive recreations - will be available, not only as attractions to our thousands of visitors but also to our own communities. These are the recreational activities that appeal to families, the kinds of things that help keep families together.

I thank you for the opportunity to bring these ideas and opinions to your attention. I urge you to appropriate $11.6 million to initiate construction of this worthy project.

STATEMENT OF DAN SCHMITT, BOARD OF DIRECTORS, ANIMAS-LA PLATA WATER CONSERVANCY DISTRICT

I am Dan Schmitt, a recent appointee to the Board of Directors of the Animas-La Plata Water Conservancy District, and a life-long resident of southwestern Colorado. I am a young farmer with hopes and dreams for the future. I urge your support for the full $11.6 million in in funds to begin construction of the Animas-La Plata Water Resource Development Project.

I am a drysider who lives and farms in the semi-arid region to be served by the Project. I raise several thousand hogs from farrow to market each year. I look forward to receiving water, together with my Indian neighbors, from the Animas-La Plata Project. I am as aware as anyone of the difference irrigation will make in my ability to produce a living from my land.

I do my best every year to provide a living for my family. I am trying to be a successful farmer but I do not now have an adequate supply of water to irrigate the lands which I am farming. Things generally look fine in the spring. The soil is ready for planting; we put out the seed; we watch things start to grow. Then we have to wait and see if our gamble on the weather is worth it. Because we don't have a reliable source of water, we find that about three or four years out of ten we wind up with a "short crop," which is about enough at harvest time to keep us going but not enough to make farming worth the effort. And sometime we fail to harvest even a "short crop."

We have seen potentially bumper harvests deteriorate to nothing because of erratic rainfall and lack of irrigation. Access to irrigation water from the La Plata River is limited to the first few months of the growing season. About mid-June the La Plata River either dries up or is on call to meet the Interstate La Plata River Compact with New Mexico. The result is that unless there is a chance rain storm, our flourishing crops wither and die for lack of water.

Our soil is rich and will support valuable crops but without a reliable water supply we are limited to the farming methods practiced by the earliest settlers. Although agriculture is the oldest continuing industry in our area, the lack of a sustained irrigation supply has significantly limited crop yields and restricted the diversity of crops. There is an urgent need for additional water supplies for irrigation in July, August and September, after the snow melt has ended.

Engineering studies indicate that the existing deplorable conditions can be overcome with a water storage project to meet our water needs from late summer to early fall. The Animas-La Plata Project, when fully operational, will enable us to capture and store water when it is plentiful, and distribute and use it during times of shortage.

I have signed a petition for an allocation of water from the Animas-La Plata Water Conservancy District. I know I will not start receiving water until twelve years from now. I know no one knows what the operation and maintenance costs for my allocation of water are going to be twelve years from now. With the Animas-La Plata Project water, however, I have every confidence that I will be able to farm successfully and that I will be able to make a worthwhile contribution to our society.

The Animas-La Plata Project is our best hope to make the dryside the kind of farm land we need in our part of the country. We cannot, however,

build this Project without federal assistance. We therefore repeat our pleas of other years that you help provide us the means of making the best use of our fertile soil.

The Animas-La Plata Water Conservancy District is one of the signatories of the Final Settlement Agreement to satisfy the water rights claims of the Southern Ute and Ute Mountain Ute Indian Tribes through the construction of the Animas-La Plata Project. We were proud to have been a part of this settlement to achieve the common good. Without this negotiated settlement of the reserved water rights allocations for the Tribes, we would have been at loggerheads with our Indian neighbors over water. All parties recognize that by building the Animas-La Plata Project there will be sufficient water to allow growth and prosperity throughout southwest Colorado for Indians and non-Indians alike.

I have been neighbors with the Indian people all my life. We have always gotten along and we have always kept our word to each other. The Congress should not allow the word of the United States to the Indian Tribes to be broken. Congress should approve the funds which are necessary to honor the federal legislation which was approved less than a year go. In my view, the honor of the United States Government is at stake. The history of broken treaties, broken agreements and broken promises should be just that, history. Congress and the President should not speak with a forked tongue to the Indian people of this country. If other Indian tribes are going to be asked to sit down and negotiate in good faith to reach settlement agreements, they must have the assurance that once those bargains are struck, Congress and the administration will keep their word. I hope you will do just that and provide the $11.6 million needed to keep the Animas-La Plata Project on a 12-year construction schedule.

I thank you for giving me the opportunity to speak. I hope you will give me the opportunity to be a successful farmer so that one day my 2½ year old son will also have that same opportunity.

STATEMENT OF KEN BRENGLE, DIRECTOR, DURANGO AREA CHAMBER RESORT ASSOCIATION

I am Ken Brengle, Director of the Durango Area Chamber Resort Association (DACRA). I am here to request the full appropriation of $11.6 million to allow the construction of the Animas-La Plata Project to proceed on its 12-year construction schedule. The A,B,C,D's of the Animas-La Plata Project will provide economic stability and economic growth for southwestern Colorado.

A is for acre-feet. The City of Durango will receive an allocation of 2,500 acre-feet of Project water for municipal and industrial use. Durango has tried, through various measures, to conserve water during periods of summer shortage, including installation of water meters and limiting hours and days of water usage outside the home. Nevertheless, with the City's present limited storage capacity and uncertain summer precipitation, the City will not be able to meet the obligations for the future growth of our community. The Durango City Council, with an eye to taxpayer concern for cost effectiveness, employed an outside firm of consultants to evaluate the City's proposed participation in the Animas-La Plata Project. The City's consulting engineers concluded that from the standpoint of a constant, dependably adequate supply of water for the region, the Animas-La Plata Project is the most economically feasible alternative. The

Durango City Council, therefore, affirmed the conclusion of the consulting engineers and has strongly endorsed the Animas-La Plata Project.

B is for back-up. Even today, scattered rainfall and drought pose a threat to the existence of the farmers and ranches of southwestern Colorado. Farmers in southwestern Colorado need backup supplies of water to allow them to continue in their chosen way of life. The Animas-La Plata Project is the means of storing and regulating the flow of water to ensure a stable quality of agriculture life.

C is for cooperation. The cooperative effort of everyone in southwestern Colorado to achieve the final settlement of Southern Ute and Ute Mountain Ute Indian water rights. I wish to echo the message being conveyed today by others with regard to the water rights of the two Indian Tribes. Years ago these Indian Tribes were required to accept as sites for their reservations extensive tracts of land which then seemed to have but little economic worth - some 13,000 acres of semi-arid marginal terrain. Only recently have we learned that the reservations of the two Tribes contain millions of tons of coal reserves. The Tribes are depending on the Animas-La Plata Project to provide them with a municipal and industrial water supply so that these coal reserves can be converted into productive energy.

In addition, the Tribes will be entitled to 29,900 acre-feet of irrigation water from the Animas-La Plata Project. I am aware of how vitally important Project water will be to the Tribes. It will give new life to tribal economies. The Animas-La Plata Project will also offer hope to the many unemployed tribal members eagerly awaiting the opportunity to engage in productive enterprises. Should the two tribes lose faith in the promises made by the United States Government to supply adequate water to the reservations, the Tribes have no alternative but to resort to litigation instead of cooperation.

D is for dollars. The Animas-La Plata Project will provide jobs for the people and stimulate the economies of La Plata County, Colorado, and San Juan County, New Mexico. During the peak years of Project construction, 860 people will earn about $18,500,000 per year. In the final year of construction, approximately 570 people will receive about $12,200,000 in salaries. Jobs and income not directly related to construction will also be generated as a result of the Project. Upon completion of Phase 1 of the Project, a total of approximately 110 jobs will be created in both agriculture and related businesses, including almost 40 new on-farm jobs in Colorado and New Mexico.

Annual gross agricultural production would be increased by an estimated $15,750,000, and annual net farm income would be increased by about $8,820,000. Approximately 23,750 acres of non-Indian dryland will be added to the tax rolls.

A-B-C-D. It's that simple and that worthwhile. Please support the full appropriation of $11.6 million for the Animas-La Plata Project to allow this vital project to proceed on its promised 12-year construction schedule.

STATEMENT OF JEFF MORRISSEY, PRESIDENT, TAXPAYERS FOR WATER AND ECONOMIC DEVELOPMENT

My name is Jeff Morrissey. I am a representative of the business community of Durango and I am President of Taxpayers for Water and Economic Development (TWED). With me today is Harold Green, an active participant in the TWED group. In Durango, I am an insurance broker. Harold Green is the Manager of KIQX Radio Station. Today we ask you to support a viable economy for southwestern Colorado by supporting the appropriation of $11.6 million for the construction of the Animas-La Plata Water Resources Development Project.

The local business community in southwestern Colorado solidly supports the Animas-La Plata Project. As businessmen, we are concerned about the economic growth of southwestern Colorado. The Animas-La Plata Project will significantly enhance the area's struggling economy. Over 40 local business leaders organized Taxpayers for Water and Economic Development in advance of the December 8, 1987, election on the repayment contract between the Animas-La Plata Water Conservancy District and the Bureau of Reclamation. TWED actively participated in the local effort to secure the passage of the repayment contract and raised over $60,000 in that effort. The group now meets monthly to work for the construction of the Project so vital to our area's economy.

The Animas-La Plata Project will help all in southwest Colorado. Although at the outset, the Project was projected to have a benefit-cost ratio of 1.6:1, a study by Dr. Bernard Anderson, Professor of Economics at Fort Lewis College, reflects ratios in expanded direct benefits of 1.71:1, and in expanded total benefits of 2.82:1.

The Animas-La Plata Project is to provide 41,700 acre-feet of municipal and industrial water to southwestern Colorado. Of this amount, Durango and the immediate surrounding communities will receive approximately 6,700 acre-feet. Small wonder, therefore, that the Durango City Council unanimously approved a letter of intent to participate in the Project by contracting with the Animas-La Plata Water Conservancy District for 2,500 acre-feet of water.

Additional water storage is needed for Durango's present and future residents and for its thousands of tourists. Durango is the center of a rapidly expanding recreation industry and the focal point of many archaeological undertakings. Magnificent scenery and an unmatched summer climate attract visitors from all over the United States and from many foreign countries. In addition, Purgatory ski resort is a focus of tourist attention in the winter.

I can assure you that growth in La Plata County is a reality. People come to our area because of the quality of life and great recreational opportunities. Although the current economic picture is not rosy, growth will soon continue at an ever-increasing rate. This population growth engenders the critical need for a stable and known supply of water both in municipal and outlying areas. The Animas-La Plata Project is the answer to our much-needed municipal water supply.

The Animas-La Plata Project represents stability for the economic life in La Plata County. Presently, many of our children are forced to leave this area and find work elsewhere because there are not enough jobs locally. The Project, after completion, will supply jobs to both Colorado and New Mexico. The increase in jobs will also have a multiplying effect. La Plata

County is heavily dependent on tourism. Ridges Basin Reservoir will provide a much-needed water based recreation area in the heart of the county.

With the construction of the Animas-La Plata Project, the annual growth of agricultural production will be increased by approximately $18.5 million. Multiplying this figure by 7, which is the number of times a dollar turns over in our community, you can see that the beneficial effect in our small area will be vast.

We ask you to appropriate the full $11.6 million the Bureau of Reclamation is capable of spending for the Animas-La Plata Project in fiscal year 1990.

STATEMENT OF JOHN E. MURPHY, PRESIDENT, ANIMAS-LA PLATA WATER CONSERVANCY DISTRICT

I am John Murphy, President of the Board of Directors of the Animas-La Plata Water Conservancy District, a former Mayor of the City of Durango, and a life-long resident of southwest Colorado. It is my privilege to appear before this committee to request the full Bureau of Reclamation funding capability of $11.6 million for the Animas-La Plata Project.

The Animas-La Plata Water Conservancy District will be responsible for administering Project facilities within its boundaries and will share in the overall administration of the Project. We are anxious that the Project move ahead toward its fundamental objective: an adequate, dependable, soundly managed supply of much-needed water for the people who have waited so long for this Project to materialize.

The voters of the Animas-La Plata Water Conservancy District voted overwhelmingly in support of the repayment contract between the District and the Bureau of Reclamation. In the heart of the agricultural dryland of the District, the Project passed three to one. The dryside farmers in La Plata County are convinced of the merits of the Project. They overwhelmingly support construction of the Project to allow farming to continue as a way of life and a vital aspect of our area's economy and to settle the reserved water rights claims of the two Colorado Ute Indian Tribes.

The value of water in the west has never been disputed by anyone knowledgeable about the history of the west. Our successes and failures are best described in those chapters of our history which are written about water resource development. It may be difficult for those who live in our well-saturated nation's capital to appreciate the critical significance of water to southwestern Colorado. To illustrate, let me point out that Washington, D.C. has annual precipitation of approximately 40 inches whereas Durango receives less than half that amount, and more than half of that occurs between October and the end of April. Thus, with only about seven inches of rainfall, and often less, we have to look to water reclamation projects to provide the moisture to ensure the survival of our crops, to help meet our municipal water requirements and to develop such industries as we can attract to our area. Unless we capture the snow runoff from our mountains and store it in reservoirs in the spring for prudent use during the dry summer months, we cannot hope to thrive.

Through the extraordinary efforts of our former Governor, our Attorney General, our Indian Tribes, our water conservancy districts, our cities and our towns, we were able in the year 1986 to accomplish several

monumental tasks. An historic cost-sharing agreement was signed by federal and non-federal parties on June 30, 1986, which demonstrates our concerted commitment to the Animas-La Plata Project. The Colorado Ute Indian Tribes' Water Settlement Agreement of December 10, 1986 is a monument to the dedicated efforts of Indian tribal leaders, local government leaders, private citizens, farmers, ranchers and federal administrations, who recognized the value of cooperation and negotiation instead of litigation.

As a result of the thousands of hours of dedicated effort by hundreds of people at all levels of government, the Settlement Agreement will avoid litigation which could have taken years, caused enormous uncertainties about water rights, cost millions of dollars and pitted Indians against their non-Indian neighbors. Litigation would have adversely affected the development of both the Indian and non-Indian economies of southwestern Colorado and created bitterness and distrust between neighbors.

The people who live and work in southwestern Colorado will gladly tell you that we have long taken pride in our relationship with our Indian friends and neighbors and our neighbors in New Mexico. We are especially proud of what we have accomplished over the past several years to resolve our disputes over water. The jigsaw puzzle could not have been completed without all the pieces. We in Colorado were fortunate to have all the pieces. We were also fortunate that we had people totally committed to putting those pieces together, which enabled us to arrive at an agreement which is fair to Indians and non-Indians alike. Now the federal government risks the Agreement by failing to live up to its commitment to a 12-year construction schedule for the Project, the heart of the Agreement.

The Bureau of Reclamation estimates that $11.6 million can be utilized during fiscal year 1990 to achieve a twelve-year construction schedule. The fiscal year 1990 Presidential request, however, is short by almost $8 million. Therefore, on behalf of the Board of Directors of the Animas-La Plata Water Conservancy District, I turn to you with confidence that our long years of efforts in putting together this jigsaw puzzle will not be erased by inadequate funding.

Thank you very much for your attention and consideration.

STATEMENT OF DAVID L. POTTER, MANAGER, LA PLATA ELECTRIC ASSOCIATION, INC.

I am David Potter. I am the Manager of La Plata Electric Association, Inc., a non-profit, member-owned corporation, established to transmit and distribute electricity in southwest Colorado. I am also a representative of the business community of Durango, including the the Durango Industrial and Development Foundation. I am here to request an appropriation of $11.6 million to keep the Animas-La Plata Project on its construction schedule.

As a major service provider for southwest Colorado, La Plata Electric Association solidly supports the Animas-La Plata Project. The Animas-La Plata Project will help stabilize electric rates. The Board of Directors of the Association studied the Project at great length and concluded that revenue growth in the Association's service area as a result of the Project will keep rates at near current levels without inflation for the foreseeable future. The electrical facilities associated with the Project will help improve the Association's system reliability. System upgrading is an integral component of the water delivery portion of the Project. In addition, the Animas-La Plata Project will significantly bolster the area's sagging economy. La Plata Electric Association supports economic development in its service area, both to assure steady growth and a proven market and to provide a better lifestyle for the entire community.

The Animas-La Plata Project will encourage diversification of the area economy. The availability of water is critical in attracting industry as well as supporting current growth. The Project will increase tourism; for example, Ridges Basin Reservoir will be a 4-mile long lake just outside Durango with fishing and camping facilities. Residents of our service area appreciate the environment, the area's recreational opportunities and the security of small town life. By using our natural resources to create new jobs and improve our area's economy, we can preserve the lifestyle so important to our community.

The Project will create jobs during the twelve years of Project construction and will provide for secondary jobs such as farming and agriculture. The Project will directly provide as many as 1,054 jobs related to its construction and indirectly another 1,159 jobs at its peak in about 1997. Operation of the Project will require several full-time positions over the next several generations. The unemployment rate of the Four Corners area is among the highest in the state. The job security offered by construction of the Animas-La Plata Project is a major attraction of Project.

The U.S. Bureau of Reclamation estimates that the total income generated by Project construction will range from $375,000 in the first year of construction to more than $38 million in the tenth year. In all, direct and indirect new income will approach $170 million over the twelve construction years.

The Project's economic impact during peak construction will exceed that of the state supported Fort Lewis College, one of the county's leading employers. The Project's economic appeal is irresistible, particularly as it provides a means of escaping the typical boom or bust economic cycle which has plagued Durango since its early days.

The value of area homes in southwest Colorado has dropped in the past several years and raw land lost value even faster. With the construction of the Animas-La Plata Project, area property values are projected to return to their previous level.

Finally, as a Project proponent, I am aware that the Project provides the only readily available vehicle to satisfy the Indian reserved water rights claims. Litigation to settle these claims would have had a devastating effect on our economy.

I ask for your support for full funding for the Animas-La Plata Project. This Project is crucial to the economic development of our area.

STATEMENT OF DORIS BRENNAN, COMMISSIONER, LA PLATA COUNTY, CO

I am Doris Brennan, a member of the Board of County Commissioners of La Plata County, Colorado. I have been authorized to give my Board's unqualified support to the $11.6 million request for funding for the Animas-La Plata Project.

The Commissioners of La Plata County have long recognized the need for the Animas-La Plata Project. For the last nineteen years, Commissioners have publicly supported the Project because the county-wide benefits are obvious and the county-wide need is critical. The vast majority of County residents voted in favor of the Project - in favor of conserving our water resources, preserving our water rights, and maintaining our cordial and supportive relationship with our Indian neighbors.

As a County Commissioner, I must see to the interests of all of our La Plata County residents, including those who reside on the Southern Ute Indian Reservation. The Tribe and the non-Indian communities in our area have had an excellent working relationship. La Plata County, for example, has cooperated with the Tribe on road construction and maintenance, jurisdictional issues, land for our airport, and law enforcement. Only in the area of water was there any real potential of a parting of the ways. With the signing of the Colorado Ute Indian Tribes Final Settlement Agreement on December 10, 1986, we thought this issue, too, had been set to rest.

Tributaries of the San Juan River serve the municipal, domestic and industrial needs of both Indians and non-Indians of southwest Colorado. These tributaries were the subject of conflicting claims between Indians and non-Indians. Because of the cost of litigating these conflicting water rights was overwhelming, interested parties conducted thousands of hours in negotiations over several years to reach a settlement. The Animas-La Plata Project is the heart of the negotiated settlement. The Southern Ute Indian Tribe has agreed to a specific amount of water from the Project which will allow existing Indian water rights to continue unabated as well as provide for large-scale non-Indian water usage without detriment to any party. Without the development of the Animas-La Plata Project on its proposed 12-year schedule, this settlement will be jeopardized.

The Southern Ute Indian Tribe's water could assist in major coal development by the Tribe. Coal development would alleviate wide-scale Tribal unemployment. I believe that our environment will be fully protected under such development because I know of no group more attuned to protecting our environment than our Indian neighbors.

I believe we must do something to preserve the agricultural economy in our area. In the past, water for municipalities has been developed at the

expense of agriculture. The population growth of La Plata County has involved conversion of many of our finest agricultural lands. This conversion occurs because we lack a constant supply of water to sustain growth. With the Animas-La Plata Project, agricultural land conversions will slow down. The Animas-La Plata Project is the answer to a stable and known water supply for municipalities in both Colorado and New Mexico.

Not only will the Animas-La Plata Project provide a secure municipal water supply for our citizens, it will provide dryland farmers of La Plata County with needed assistance. The uncertainties of the weather often destroy crops or severly diminish crop values. Agriculture is an important economic factor in La Plata County and we can foresee the tremendous boost to the economy if a consistent supply of water is secured through the Animas-La Plata Project. The Project will supply continuous irrigation to 70,000 acres where only 10,000 acres are irrigated now. While the Animas River has never been on call, the La Plata River, located in what is aptly known as the "dry side," is on call after mid-June. There has not been a year in which there has not been a call on that river. The beauty of the Animas-La Plata Project is that it will take the abundant Animas River water and provide it to the very fertile "dry side" soils.

The Animas-La Plata Project, which certainly represents a wise use of federal tax dollars, has been approved for a long time. It has not been built because other projects were funded ahead of it. Now that the construction of those projects is nearing completion, more money should be made available to the Animas-La Plata Project which was to have been built concurrently with those projects now nearing completion and now providing their multiple benefits to the people and property in those project areas.

The very future of southwestern Colorado turns on the construction of the Animas-La Plata Project. As you know, I am an elected official, as are each of you, and it will be to the credit of all of us if you support full funding for the Animas-La Plata Project.

Oklahoma Water Projects

Senator Reid. The next witnesses we will hear this morning will be Harvey Bollinger, who is the executive director of the RedArk Development Authority, and Steve Hardy, president of Rural Enterprises. We would ask both of you to come forward. You are both from Oklahoma and again, indicating our time is very short for a lot of reasons, so if you would proceed as rapidly as possible we would ask that any written remarks that you have be made part of the record and if you would orally summarize your statement.

STATEMENT OF HARVEY BOLLINGER, EXECUTIVE DIRECTOR, REDARK DEVELOPMENT AUTHORITY

Mr. Bollinger. Mr. Chairman, I am Harvey Bollinger, executive director of RedArk Development Authority and I do have written material that we have submitted for the record and would like for it to be included as you indicated.

Mr. Chairman and committee members, on behalf of the 19-member board of trustees of RedArk, I want to express our appreciation for this opportunity to again meet with this committee. We consider it an honor and a privilege to testify before the committee. We also consider it a responsibility to work with you in the committee.

Acting Chairman Reid, just a quick personal note. My son is a freshman at Oklahoma State University and while visiting his fraternity, I recognized a familiar face among the pictures of famous members, and that is Chairman Johnson of this committee. And so my son asked that if I would, from the Theta Chapter of the Phi Delts, pass along his "hello" to Chairman Johnson.

Senator REID. Thank you.

Mr. BOLLINGER. I do have a summary page on projects. We do recognize the constraints on the budget this year and we are considering those constraints and limitations as we make our requests and we feel that these requests frankly do not involve any new-start projects.

Frankly, they involve the continuation of projects that are ongoing. Some commitments are old. Some of these projects were started in 1960. In the case of the Red River chloride control project there have been several commitments by the Federal Government made with the States regarding these projects. We are asking that the McGee Creek project be funded with $2.77 million which would complete this project and we feel to achieve the previous investments we need to do that.

RED RIVER CHLORIDE CONTROL PROJECT

Regarding the Red River chloride control project there have been many requests by the administration to restudy this project and every time we restudy it it is shown to be feasible again and they ask us to restudy it again. Every time it is feasible again.

The last such request was that a special evaluation panel be formed to evaluate the one project that has been constructed to see if it is working. Their answer was, not only does it work, it works better than it was projected to work. We would like to get on with that and this is very important to the Red River area and again, this affects the water that ultimately ends up in the chairman's State, so we would like to ask that we have some funds—$2.5 million to start area VI and area X.

Another project that I just want to touch on right quickly is the advanced radiation technology program through the Department of Energy as one of the six regional sponsors in the country. Again, this program needs $2 million to meet its previous commitments with the Florida and Iowa Irradiator projects. Those are under construction. If we do not get $2 million we are not going to get anything for about $15 or $20 million that we have already put in the project. So again, to obtain our previous investment we feel that we need to move forward with that project.

BROKEN BOW REREGULATION DAM HYDROELECTRIC PROJECT

Another quick project I want to touch on is the Broken Bow rereg hydropower project. This committee has helped to fund a Red River comprehensive study for the last several years. That study was finalized and a report presented in March 1989. It did recommend a Federal hydropower project. RedArk is willing to act as a non-Federal sponsor in a new cost-sharing program. We feel like it ought to be a Federal project and move forward with us providing the financing as a non-Federal sponsor.

Another activity is military use of the waterway. This is a new concept. It provides a new purpose and benefit for navigation and again, in keeping with trying to find ways to utilize what we already have instead of build new things, we feel it is very important that we find new uses for our waterway system. It is very important to the future, again, of all the Nation's waterways and especially the Red River waterway area.

We are asking for some funds—a small amount of funds to build some ramps and loading facilities in Oklahoma and Arkansas. These are the two National Guard units that first started using the waterway and we would like to help them continue that.

One other activity that I want to just touch on very quickly is another——

Senator REID. I think we are going to have to stop you now. You have a great advocate—Congressman Wes Watkins. I served with him in the House. He is referred to by the staff as a bulldog, so you are well represented.

[The statement follows:]

STATEMENT OF HARVEY BOLLINGER

TESTIMONY SUMMARY

PROJECT	REQUIRED ACTION BY COMMITTEE
1. McGee Creek Lake (BOR)	Fund $2.77 million to complete including roads and $236,000 for O&M.
2. Red River Chloride Control (COE)	Fund $2.5 million to initiate construction on Areas VI and X.
3. Broken Bow Rereg Dam H.P. (COE)	Build as Federal Project with RedArk as non-Federal sponsor.
4. Military Use of Water Ways (COE)	Fund $510,000 for loading ramps at Boudinot Safety Harbor, OK and Lock and Dam 13, AR.
5. Advanced Radiation Technology Program (DOE)	Fund $2.0 million to meet previous commitments.

REDARK DEVELOPMENT AUTHORITY

Mr. Chairman and Committee Members on behalf of the 19-member Board of Trustees of RedArk, I want to express our appreciation for this opportunity to again meet with this committee. We consider it an honor and a privilege to testify before this committee because we feel that without a strong multi-purpose national water development program, many of the other important aspects of our country's future, including the nation's defense program are really being built on a very unstable foundation. We also consider it a responsibility to work with you and the committee.

The RedArk Development Authority (RedArk) is a public trust established under the laws of the State of Oklahoma for a 21-county area of East Central and Southeast Oklahoma. The name RedArk is derived from the fact that the area lies immediately between two major water resources, the Red and the Arkansas Rivers. The purpose of RedArk is to undertake the maximum potential development of the area's water and natural resources with the objective of obtaining the maximum potential economic and employment benefits for the people of that area. With this purpose in mind, RedArk is vitally concerned with the development of not only what we consider our area's most vital resource, but also the most vital resource of our great nation---WATER.

To achieve its principal purpose, RedArk has initiated a comprehensive, multi-purpose, resource development program. This effort includes a major water and energy

program of hydropower development, water supply, recreation, flood control, water quality and other related activities.

RedArk is aware of the constraints on the Federal budget and have kept those constraints in mind as the following requests were developed. On behalf of the RedArk Board of Trustees and because of the far-reaching regional and national benefits addressed by the following projects, I urge the members of Congress to review the materials contained herein and give serious consideration to funding the projects requested.

McGEE CREEK LAKE

McGee Creek Lake was authorized for construction, operation, and maintenance in accordance with Federal Reclamation Laws by PL 94-123, September 28, 1976. McGee Creek Lake is located in Atoka County in Southeastern Oklahoma. McGee Creek is a northern tributary of the Red River. The damsite is about 3.4 miles about the confluence of McGee and Muddy Boggy Creeks. The project was authorized for water supply, flood control, and recreation. Construction began on the project in June 1982.

RedArk strongly supports continuation of this project, and the concept demonstrated in the project of maximum development of the local economy by maximum utilization of opportunities provided by the project's development. We recommend the members of the McGee Creek Authority continue to cooperate with the basin interests to fully develop the economic potential of this project for the benefit of the project area and the nation.

The dam is completed with the entire project scheduled for completion in FY 90. In order to complete this project on schedule and to fully realize the previous investment, RedArk is asking that $2,770,000 be provided to complete this project in FY 90, including all roads which are associated with the project. We also ask that the Bureau be instructed to utilize these funds entirely and only on the McGee Creek project. In addition we ask that $236,000 be provided the Bureau of Reclamation for operation and maintenance of this project in FY 90.

RED RIVER BASIN CHLORIDE CONTROL

The availability of an ample supply of clean water for use by the communities along the Red River has become an increasingly major concern of the millions of citizens residing in the basin. More and more, communities along the river are finding themselves faced with critical shortages of water for current as well as future use. Solutions being developed by individual communities are not only extremely costly, but in many cases, are leading to unacceptable rivalry between the states and communities along the river.

Because of this need for a reliable clean water supply for economic growth as directly related to agriculture, municipal, and industrial benefit, RedArk is vitally concerned with the control of the ten natural salt pollution areas within the upper Red River Basin.

We have actively supported the work of reducing man-made pollution of the river and have followed, with keen interest, the work of the Corps of Engineers in finding sources of natural salt pollution and devising ways of abating them.

Construction of a ring dike to test application of backhead as a means to suppress individual brine springs was completed at Estelline Springs, Texas, (Area V) in 1974. Today, the structure is operated as a permanent control installation and successfully contains approximately 80% of the total chloride load emitted from Area V.

Construction on Area VIII, which includes the Truscott Brine Lake, was begun in February 1977, and the Area VIII facilities were placed in operation in May 1987. Section 1107 of the Water Resources Development Act of 1986 (PL99-662) authorizes construction of the control measures at the remaining area (Area VI, VII, IX, X, XIII, XIV, and XV) at full Federal expense upon transmittal of a report to the Secretary of the Army, the Committee on Environment and Public Works of the Senate, and the Committee on Public Works and Transportation of the House of Representatives of a favorable finding of the effectiveness of the operation of Area VIII. This report was to be made by a five-member panel consisting of representatives of the U. S. Geological Survey and the Texas Water Commission, a person selected by the National Academy of Sciences, and two other qualified persons to be appointed by the Secretary with the concurrence of the Governors of Texas and Oklahoma. The panel performed a qualitative analysis to assess the improvements (reduction of chlorides) in water quality downstream of Area VIII to determine its consistency with the water quality assumed in the development of the project benefits by the economic reanalysis in the Corps of Engineers Memorandum No. 25 of 1980.

Based upon the Evaluation Panel Report completed in August of 1988, they concluded "that the control system at the Bateman Pumping Station (Area VIII) is operating better and more effectively than was predicted in Memorandum No. 25. Chloride removal during the test year actually exceeded projection, and the expected level of control over the anticipated life of the project is estimated to be at least 87 percent, which again, exceeds projection."

While I was employed by the COE-Tulsa District I was a member of the team which developed Memorandum No. 25; therefore, I am very pleased with the finding of the Evaluation Team. Given these findings, RedArk ask that you provide the Corps of Engineers with $2,500,000 to initiate construction on control measures for Area VI and Area X during Fy 90.

BROKEN BOW REREGULATION DAM HYDROPOWER PROJECT

The Broken Bow Reregulation Dam is part of the Broken Bow Lake project and is located about 8.7 miles downstream of the main Broken Bow Dam. Broken Bow Lake is an existing Federal project on the Mountain Fork River in McCurtain County, Oklahoma, operated by the U. S. Army Corps of Engineers (USACE), Tulsa District. The project was authorized by the Flood Control Acts of 1958 and 1962 to include project purposes of flood control, water supply, hydropower, recreation, and fish-wildlife conservation. The reregulation dam was constructed as a part of the original project to smooth the fluctuating flows caused by hydropower discharges from the upstream main dam and to provide pondage for low flows during nongeneration periods. Due to the discharges from upstream power generation during peak power demand periods and approximately 30 feet of head at the reregulation structure, the opportunity exists for capturing this energy potential by construction of hydroelectric power generating facilities. The Broken Bow Lake and Reregulation Dam have been in operation since 1970.

An interim report on the feasibility of installing hydropower at the Broken Bow Reregulation Dam was completed by the USACE, Tulsa District in July, 1983. This study was conducted under the authority of the Red River Basin, Arkansas, Texas, Louisiana and Oklahoma Comprehensive Study (Public Law 98-63 approved 30 July 1983) pursuant to language contained in House Report 98-217. The interim report concludes that the addition of generating facilities at the reregulation dam is technically, economically, and environmentally feasible. The report selected the 7,325-KW plan as the National Economic Development Plan and recommended it for Federal construction. The Southwestern Power Administration (SWPA) in a letter dated 29 July 1988 states that the recommends plan is financially feasible and could be marketed through their interconnected power system. The U. S. Fish and Wildlife Service (USFWS) supports the project as it is recommended by the interim report.

The Water Resources Development Act of 1986 (PL 99-662) specifies that the costs of a project assigned to hydropower shall be 100 percent non-Federal. The RedArk Development Authority by resolution dated 24 March 1988 established their desire and willingness to become the non-Federal sponsor of the Federal hydroelectric power project at the Broken Bow Reregulation Dam.

RedArk strongly supports Federal hydropower projects which are technically, economically and environmentally feasible and where non-Federal sponsors are available to develop the project according to PL 99-662. I request that (1) the USACE be directed to construct and operate the Broken Bow Reregulation Dam Hydropower Project as a Federal project, (2) that the RedArk Development Authority be named as the non-Federal sponsor, (3) that the SWPA be directed to market the power and to return revenues to cover the cost of the project directly to the non-Federal sponsor instead of the Federal Treasury, (4) and that the USACE be funded in design and construct the project with such funding being returned to the USACE by the non-Federal sponsor at the time the hydropower project is completed and operational. This would encourage the USACE to keep the project within the original budget which has been a problem experienced on many cost-shared projects since the passage of PL 99-662.

MILITARY USE OF WATERWAY

Previously during our testimony we reported to you, via a slide presentation, the results of two test movements of military utilization of the inland waterways. These two actual movements were conducted on the McClellan-Kerr, because of the activities of the COE-TD, particularly the efforts of Mr. John Sparlin, Chief of the Economic and Social Analysis Branch of the Planning Division. The Tulsa District worked with the Oklahoma Army National Guard (OKARNG) to conduct the first test movement in April 1986 from Camp Gruber, OK to Ft. Chaffee, AR. This 93 mile trip (one way) resulted in a 64% cost savings.

The TD then working with the Texas Army National Guard (TXARNG) conducted a second larger and longer test movement. The 211th Engineering Dredge Detachment, moved 27 engineering equipment pieces from Port Naches, TX to Ft. Chaffee, AR a distance one-way of 1100 miles. This test is even more dynamic with a 73% savings over land modes.

During the summer of 1987, the OKARNG conducted a second movement of 34 pieces of heavy engineering equipment again from Camp Gruber, OK to Ft. Chaffee, AR. This movement showed a 50% savings over land modes.

Also in June of 1987, the first movement supported by the Military Traffic Management Command (MTMC) was conducted by the Arkansas Army National Guard (ARARNG). This movement was 1500 miles one-way. It involved moving from Ft. Chaffee, AR down the Arkansas River, up the Mississippi River to the Illinois River, then up the entire length of the Illinois River and finally across the entire length of Lake Michigan to Camp Grayling, Michigan. This movement included a complete artillery battalion including guns (164 pieces). This movement was totally handled by a commercial barge company and resulted in a 40% savings over the least cost alternative land mode.

Subsequent to last years report to you several new and exciting activities have taken place. During May 1988, the 2nd Battalion, 142 Field Artillery, ARARNG transported 234 pieces of equipment in its 2nd movement on the waterway. The movement went from Ft. Chaffee, AR down the Arkansas River, up the Mississippi River, across the Ohio River to McAlpine Lock and Dam near Louisville, KY and road marched to Camp Atterburg, IN. The return trip was made in June 1988. This is the largest single move to date.

Also in May 1988, Troup E, 145 Cavalry, OKARNG transported ten M60-1A tanks from Camp Gruber, OK to Ft. Chaffee, AR, with a return trip occurring in mid-June 1988.

The Missouri Army National Guard (MOARNG) requested waterborne transportation, in February 1989, of an entire engineering brigade from St. Louis, Missouri to Mobile, Alabama for transshipment on an Army Mobilization Exercise. The Military Traffic Management Command (MTMC) requested bids from both rail and water modes. The water carrier (a commercial barge company) was the low bidder.

Mr. Chairman, this movement would have utilized the Tennessee-Tombidbee Waterway; however, because of low water conditions on the Mississippi River and lack of experience with water transportation, the contract was awarded to the railroads. That is the bad news. What about the good news? I have been advised that the MOARNG desires to use the waterway for its return trip in May 1989. I understand that the MTMC has agreed to cooperate. This history setting movement will use the Tennessee-Tombigbee Waterway.

On 15 April 89, the 1st Battalion, 189 Field Artillery OKARNG will transport 130 pieces of equipment on the waterway as a part of a mobilization exercise. The trip will begin at the Port of Catoosa on the Arkansas River and terminate at Lock and Dam 7 on the Upper Mississippi River near Ft. McCoy, WI. The MTMC awarded the contract to Canal Barge Lines, who will use the 1800 HP, MV Caroline to move the 7-barge tow.

The Tulsa District has completed the final design of a loading ramp for the National Guard Bureau. This ramp is to be located at Boudinot Safety Harbor, near Camp Gruber, OK at river mile 382. The cost of this facility is $260,000. The Little Rock District has completed the final design for a similar ramp at Lock and Dam 13 near Ft. Chaffee, AR. The cost of this facility is $250,000. RedArk asks that both of these facilities be provided funds in FY 90 to allow for expanded use of the waterway by the OKARNG and the ARARNG.

COMPREHENSIVE BASIN STUDIES

Beyond the obvious benefits because of the transportation cost savings to the military which are of importance to the subcommittee, Mr. Chairman this subcommittee can take special pride in this new found benefit of the inland waterway system. The entire concept of the military utilization of the inland waterways system was born out of the two basin-wide, interagency, comprehensive studies which this subcommittee has funded over the past several years at the request of your fellow subcommittee colleague, Congressman Watkins.

These two reports; the Red River Basin Comprehensive Study and the Arkansas River and Tributaries, South Central and Southeast Oklahoma Comprehensive Study; were both completed and final reports published in March 1989. In addition to the military use of the waterway, these reports also identified several other innovative opportunities for additional benefits to our nation resulting from greater use of our water resource projects. Thank you for your support of these two studies.

AQUACULTURE-FLOATING FISH FARMS

Another significant opportunity identified by the two comprehensive basin studies is that of using the Federal lakes for commercial aquaculture activities. This not only provides for better use of our water resource projects it also creates a new benefit and revenue stream from such projects. The concept involves the leasing of a part of the lake and shore line for the development of commercial floating fish farms. This is much the same as the commercial marina leases currently being issued on Federal lakes.

RedArk is currently operating a demonstration project using this concept for catfish production on an existing Corps of Engineers facility in Oklahoma, Lake Texoma. We refer to it as the Texoma Net Pen. It involves five-20'X40' pens stocked with from 250,000 to 300,000 catfish.

The Corps of Engineers, Tulsa District is cooperating with RedArk, USFWS, USDA-ARS and USDA-SCS on a three-year demonstration project. There are no Corps funds involved in the operation of this project; however, the Tulsa District has provided the lake area and shore line necessary for the demonstration. We are releasing 10% of the harvestable fish into the lake at the direction of COE-TD and the USFWS. I hope to return next year with a full report on the conclusion of this floating catfish demonstration farm project.

OKACI

The Department of Energy (DOE) has initiated six (6) commercial scale agricultural commodities irradiator (ACI)

research and demonstration projects through its Advanced Radiation Technology Program. Oklahoma has been selected for one of the six facilities, referred to as the Oklahoma Agricultural Commodities Irradiator (OKACI). RedArk Development Authority has signed a letter cooperative agreement with DOE regarding the development of OKACI. This agreement provides for $300,000 to be provided by DOE for RedArk to conduct necessary efforts which would lead to a definitized cooperative agreement between DOE and RedArk regarding the construction and operation of OKACI.

The Energy and Water Development Appropriations Acts of 1986, 1987, and 1988 provided funding for the development of the six ACI. The DOE budget for FY 89 requested no funds to continue this program. Although the House appropriations included funding, the Senate appropriations did not and the Senate prevailed in the Conference Report.

Because of no funds being provided for FY 89, the ACI program has been delayed and based upon decisions currently being made by DOE could cease to exist without any of the six ACI projects being constructed.

Two of the six (Florida and Iowa) ACI projects have moved beyond the planning stage into the implementation stage. Based upon the current obligations of available funds, the program is in need of $2.0 million to complete the construction of the Florida and Iowa ACI projects and complete the planning of four (4) ACI projects. The six sponsors met with DOE in March 1989 and requested that $1.0 million currently held in a contingency fund be used to keep the Florida ACI project on schedule.

I ask that $2.0 million be provided in FY 90 to replenish the contingency fund and complete the constructing of the Florida and Iowa ACI projects and to complete the planning for the remaining four (4) ACI projects, including OKACI This will allow the commitments made to be honored and the benefits from the previous investments in the program to become fully achievable.

The six regional sponsors suggest that the lead role for the ACI program be transferred from the DOE to the USDA. We suggest that DOE remain a participant as a part of its technology transfer program. It is important to our nation and its balance of trade that the irradiator technology that DOE has been transferred to the USDA and the private sector for the development of commercial agricultural commodities irradiation efforts. I refer you to attachments to this testimony for additional information regarding the status of the six ACI projects.

CONCLUSION

Thank you, Mr. Chairman and other committee members for this opportunity to appear before you again this year. God be with you as you toil to serve our nation and its people.

ADVANCED RADIATION TECHNOLOGY PROGRAM

FY 1988 MAJOR ACCOMPLISHMENTS

- FLORIDA PROJECT SELECTED AN A/E AND GENERAL CONTRACTOR FOR FACILITY DESIGN AND CONSTRUCTION
- HAWAII AND WASHINGTON PROJECTS ISSUED AN RFP FOR DESIGN AND CONSTRUCTION
- A RADIATION SOURCE SUPPLY ALTERNATIVE REPORT WAS PUBLISHED
- REPORT WAS PUBLISHED ON THE DESTRUCTIVE ANALYSIS OF A USED CESIUM-137 CAPSULE

FY 1989 PLANNED ACCOMPLISHMENTS

- BEGIN CONSTRUCTION OF TWO IRRADIATOR FACILITIES (FLORIDA AND HAWAII OR IOWA)
- MAINTAIN THE VIABILITY OF THE OTHER FOOD IRRADIATION PROJECTS PENDING OUTCOME OF FY 90 BUDGET ACTIONS
- MANAGE COOPERATIVE PROGRAM TO IMPROVE RADIOLUMINESCENT LIGHTING SYSTEMS

PROPOSED PRODUCTS AND RADIATION SOURCE, BY LOCATION

STATE	LOCATION	PRINCIPAL PRODUCTS	SOURCE
ALASKA	NOT DETERMINED	FISH	ELECTRON BEAM
FLORIDA	GAINESVILLE	CITRUS/STRAWBERRIES	ELECTRON BEAM
HAWAII	HILO	PAPAYA/MANGOES	COBALT-60
IOWA	AMES	PORK/BEEF	ELECTRON BEAM
OKLAHOMA	NOT DETERMINED	VEGETABLES/HIDES	ELECTRON BEAM ~~NOT DETERMINED~~
WASHINGTON	PASCO	FRUITS/VEGETABLES	COBALT-60

PROJECT STATUS - MARCH 1989

FLORIDA

- DOE FUNDING OBLIGATION $4.2M
- ACCELERATOR UNDER CONSTRUCTION - DELIVERY ORIGINALLY SCHEDULED FOR FALL OF 1989
- FACILTY CONSTRUCTION SCHEDULED TO BEGIN FEB 1989. ON HOLD PENDING BUDGET UNCERTAINTIES
- ALTERNATIVE DESIGNS BEING CONSIDERED TO REDUCE COSTS
- COMPLETION UNCERTAIN BECAUSE OF BUDGET LIMITATIONS

IOWA

- DOE FUNDING OBLIGATION $4.2M
- ACCELERATOR HAS BEEN ORDERED
- FACILITY IS IN FINAL DESIGN STAGES
- OPTIMISTIC ABOUT AVAILABILITY OF NON-DOE FUNDING. TO CONTINUE PROJECT

PROJECT STATUS - MARCH 1989

HAWAII

- DOE FUNDING OBLIGATION $607K
- DECISION TO USE A COBALT-60 SOURCE
- RFP ISSUED TO SELECT A CONTRACTOR FOR DESIGN, CONSTRUCTION AND OPERATION OF FACILITY
- BIDS UNRESPONSIVE OR TOO EXPENSIVE. ALTERNATIVE ACTIONS UNDER STUDY
- OPTIMISTIC ABOUT NON-DOE FUNDING. TO CONTINUE PROJECT

WASHINGTON

- DOE FUNDING OBLIGATION $720
- DECISION TO USE A COBALT-60 SOURCE
- RESPONSES TO RFP FOR DESIGN, CONSTRUCTION AND OPERATION BEING EVALUATED
- SEVERE IMPACT FROM FY 89 CONGRESSIONAL BUDGET ACTION

PROJECT STATUS - MARCH 1989

OKLAHOMA

- DOE FUNDING OBLIGATION - $300K
- OPTIONS STUDY IS PLANNED

ALASKA

- DOE FUNDING OBLIGATION - $451K
- OPTIONS STUDY COMPLETED - DECEMBER 1988 AND RECOMMENDED EXAMINATION OF FISH IRRADIATION
- GOVERNOR OPTED TO TERMINATE STATES PARTICIPATION
- NEW ALTERNATIVE ACTIONS BEING EXAMINED

1122

RESOLUTION

WHEREAS, RedArk Development Authority was identified by the Ninety-ninth Congress as a regional sponsor for one of six commercial scale research and demonstration agricultural commodities irradiators to be developed in the United States through the Advanced Radiation Technology (ART) Programs by the Department of Energy (DOE); AND,

WHEREAS, the irradiator became officially known as the Oklahoma Agricultural Commodities Irradiator (OKACI); AND FURTHERMORE, OKACI was to be planned for the use of a radioisotope source of either encapsulated cobalt-60 or cesium-137; AND,

WHEREAS, RedArk agreed to accept the role of regional sponsor for OKACI in its regular meeting of 12 March 1987; AND FURTHERMORE, agreed to execute a letter cooperative agreement with DOE to be definitized into a full cooperative agreement at such time as RedArk was satisfied that OKACI would contribute to the improvement of the economic conditions of the area and could be constructed and operated in a manner that would not create a health or safety hazard to the area; AND,

WHEREAS, new technological advancements in the use of machine sources, operated either in the x-ray or electron-beam mode, have made such sources more usable on a much larger array of commodities; AND FURTHERMORE, have resulted in DOE agreeing to allow their use in the six irradiator projects as an energy source for irradiators instead of a radioisotope; AND

WHEREAS, the RedArk staff has studied both radioisotope and machine sources; AND FURTHERMORE have concluded the machine source is by far the most desirable.

NOW THEREFORE BE IT RESOLVED, that the Board of Trustees of RedArk instructs its executive director to discontinue any further consideration of any radioisotope sources for the OKACI project; AND FURTHER BE IT RESOLVED, that the executive director is to request that the DOE use their technical assistant support to conduct a commodities options and facilities concept study for the OKACI project based upon the use of a machine source; AND FURTHER BE IT RESOLVED, that the Board of Trustees defer any decision to continue with the OKACI project until the RedArk staff has reviewed and recommended upon the DOE study.

I hereby certify that the above is a true and correct copy of said resolution passed unanimously by the Board of Trustees of the RedArk Development Authority, upon a motion made by Trustee Bill Hill and seconded by Trustee Tommy Harris, at its regular meeting on March 23, 1989.

REDARK DEVELOPMENT AUTHORITY

Sharon Weeks

Assistant Secretary of the Board of Trustees

LETTER FROM CONGRESSMAN TOM LEWIS OF FLORIDA ET AL.

March 8, 1989

The Honorable James D. Watkins
Secretary
U. S. Department of Energy
1000 Independence Avenue, S. W.
Washington, D. C. 20585

Dear Secretary Watkins:

Let us take this opportunity to express to you our concern with regard to the uncertain fate of the Florida Agriculture Commodities Irradiator.

In 1984, the Florida Department of Agriculture began a cooperative effort with the Department of Energy to advance irradiation technology for the state's many agricultural commodities. Following numerous planning and site related proposals, the funds were appropriated by Congress for FY 1986. Since that time, Florida has vigorously pursued construction contracts and purchase of needed equipment in an effort to meet its completion date set for December, 1989. In addition, the state has loyally met all terms of its cost obligation with DOE.

Unfortunately, in January of this year Florida was notified by DOE that the funding level of $5.4 million, committed in 1988 by DOE to the state, would be reduced to $4.2 million and suggested that all work should cease unless the project could be completed at this reduced level.

Currently, the project stands at 60% completion. Florida Department of Agriculture officials indicate the need for full funding to complete the irradiation facilities. Such a shortfall will endanger current contractual obligations and could stop the project in its entirety.

Clearly, this project is vital to the eradication of the Caribbean fruit fly, as well as the continued application of technology to research on numerous agriculture commodities, both food and non-food.

Given its importance, we want to urge the Department of Energy to uphold the commitment they have made to the State of Florida and release the agreed upon funds for the much needed irradiation project.

Mr. Secretary, we stand ready to assist you and your staff on expediting this project. We look forward to your favorable reply to our request.

Thank you for your consideration of this matter.

Sincerely,

Tom Lewis, M.C.

Charles Bennett, M.C.

Dante B. Fascell, M.C.

Bob Graham, U.S.S.

Andy Ireland, M.C.

Bill Grant, M.C.

Henry Johnston, M.C.

Connie Mack, U.S.S.

Bill Nelson, M.C.

Clay Shaw, M.C.

Cliff Stearns, M.C.

Michael Bilirakis, M.C.

Sam Gibbons, M.C.

Porter Goss, M.C.

Earl Hutto, M. C.

Craig James, M.C.

Bill Lehman, M.C.

Bill McCollum, M.C.

Claude Pepper, M.C.

Larry Smith, M.C.

LETTER FROM JOSEPH A. COLEMAN

March 29, 1989

NOTE TO: R. Holton, AL
R. Goranson, RL

SUBJECT: DOE Food Irradiation Projects

Please provide comments on the attached "Recommendation for Allocation of Funding for the Food Irradiation Projects and Consolidation of Field Management" by close of business Monday, April 3, 1989. Comments should be transmitted by telefax or phone to R. Chitwood, FTS 233-5254, or J. Coleman, FTS 233-4728. The decision on these recommendations will be made on April 4, 1989, with guidance to Albuquerque and Richland Operations Offices to follow immediately.

lp/JAC

Joseph A. Coleman, Director
Division of Waste Treatment Projects
Office of Remedial Action
and Waste Technology
Office of Nuclear Energy

March 29, 1989

Recommendation for Allocation of Funding for the Food Irradiation Projects and Consolidation of Field Management

Background

The lapse in the FY 1989 congressional funding of the food irradiation projects, and the need for funding decisions on the Iowa and Florida projects require immediate action.

As a result of the meeting between Department of Energy/Advanced Radiation Technology Program representatives and State project sponsors in Gaithersburg, MD, during the week of March 13, 1989, and an immediate need to establish the final funding requirements for the Florida project, the program has undergone a comprehensive review with respect to future plans. The consensus of the project sponsors was that all available resources be used to bring both the Florida and Iowa projects to completion. To assure viability of their projects, the Iowa and Florida projects have a need for

funding over the currently offered $4.2 million limit; Iowa has stated they need an additional $800,000 and Florida requires $1.2 million.

In addition, we believe that there is little likelihood for congressional support for the food irradiation projects in the FY 1990 appropriations to the Department.

These factors lead to the following recommendations for allocation of available funds and consolidation of DOE project management:

Recommendations

1. Use available resources to complete the two projects--Iowa and Florida.
2. Reduce DOE contractor and technical support for the projects to an absolute minimum.
3. Consolidate DOE project management responsibility and project resources at Richland Operations Office.
4. Restrict future expenditures on the Hawaii, Washington, Oklahoma, and Alaska projects to the extent possible with a view toward recovering unused funds, holding close out costs to an absolute minimum.
5. Direct Albuquerque Operations to work with Richland Operations and the project sponsor to complete expeditiously a definitive cooperative agreement with Florida.
6. Subject to completion of a definitive cooperative agreement, offer Florida an additional $600,000 immediately and an additional $600,000 if required after a Department of Energy review of the design and plans for construction and project management.
7. Identify all remaining unused funds that could be offered to the Iowa project and recommend to Headquarters an amount that should be offered to the Iowa project for its completion.
8. Request Richland Operations to provide a plan to Headquarters within 4 weeks for phasing out Department of Energy participation in the six irradiation projects.

LETTER FROM HARVEY BOLLINGER

April 3, 1989

Mr. Joseph A. Coleman, Director
Division of Waste Treatment Projects
Office of Nuclear Energy NE-24
Department of Energy
Washington, D. C. 20545

Dear Mr. Coleman,

It has come to my attention that your office is planning to make major decisions, regarding the six commercial scale agricultural commodity irradiator demonstration projects on 4 April 89, which are not in keeping with the discussions and recommendations resulting from the March meeting between the six sponsors and your office held in Gaithersburg, MD. I must express my opposition to such decisions and greatly question the motive behind them being made at this time.

Using the funds which are currently appropriated, using data provided by DOE, and working with Mr. Dick Chitwood; the six regional sponsors identified funds available to provide the $1.2 million required to keep Florida on track without reducing funding currently obligated to the other five (5) projects. Iowa stated that they could complete the current fiscal year (FY 89) without additional funding beyond the amount they now have obligated to them. This was the action we all agreed to in March.

Your conclusion that no funds will be available in the FY 90 appropriation for their projects, is a bit premature. On second thought it is not a bit premature, it is a whole lot premature. You can only be basing that on the fact that DOE did not request funds; however, DOE has never requested funds for this program and yet three of the past four years the program has been funded. The testimony before the Energy and Water Appropriations Subcommittees will not be complete until mid-April 89. I am scheduled to testify before both the Senate and House Subcommittees on the 12 April 89. I can not understand your sudden hurry to discontinue the other four (4) projects at this late date in the fiscal year and especially before Congress has an opportunity to provide funding for FY 90.

I realize that DOE has not been very supportive of this program. However, it now appears that DOE's only interest in the programs is to kill it. The six sponsors agreed to request that as much of the program as possible be moved for DOE to USDA in FY 91.

However, if by decisions you make this month you stop the four (4) projects other than Iowa and Florida, you will be removing this option for both the sponsors and Congress.

Another recommendation which you are considering that is totally beyond logic or understanding, is the transfer of the Albuquerque operations to Richland. If you are going to terminate the other four (4) projects, it makes no sense to shift the most advanced project (Florida) from Albuquerque to Richland. Albuquerque has the learning curve as a result of the Florida project. If an office must be removed from the program, it should be Richland. You always go with the most experienced quarterback, especially in a difficult game. That is unless you want to loose.

I have long wondered if DOE was by design doing everything to insure this program failed, I am now convinced this is the fact. If I was a member of Congress supporting this program or a member of the Appropriations Committee who has provided funds for the program I would remember which agency not only failed to carry out Congress's directions regarding the program but prematurely removed my options to continue the program with another agency.

I ask that no decisions other than the provision of funds to Florida from the contingency fund be made until we see what Congress does in the FY 90 Budget.

Sincerely,

Harvey Bollinger
Executive Director

TECHNICAL TRANSFER PROGRAMS

STATEMENT OF STEVE R. HARDY, PRESIDENT AND CHIEF EXECUTIVE OFFICER, RURAL ENTERPRISES, INC., DURANT, OK

Senator REID. Mr. Hardy, would you please proceed? Thank you.

Mr. HARDY. Thank you, Senator. I appreciate the opportunity on behalf of Rural Enterprises to testify before you today.

We are a little bit unusual in that we are a nonprofit corporation. We are involved in technology transfer efforts. We have housed at Rural Enterprises an industrial applications center sponsored by the National Aeronautics and Space Administration for taking technologies developed through Federal dollars and find uses for those in industry.

We are also involved in industrial incubators for job creation through new products and new processes and new technologies. We just completed our sixth annual new product and process fair for getting our young people as well as our adults—entries from 83-year-old people all the way down to the age of 10—to be able to come up with their ideas for being able to come up with new products and new processes.

The reason for that is, through those new products and processes we can become more competitive by creating jobs and new industries in our area of Oklahoma. We are serving now not only all 77 counties of Oklahoma, but serving the Central States from North Dakota down to Texas as an industrial application center providing

technology transfer efforts, end technologies developed by not only NASA, but now by the Department of Energy.

Beginning this past January, we launched a program with the Department of Energy to utilize Department of Energy technologies for the creation of new products and processes for industrial applications with a bottom line of job creation in mind.

We have two examples I would like to touch on quickly, because it is hands-on examples. One is through a company that we assisted 3 years ago, the Instant Burger. It is a direct current cooker that has now revolutionized the way McDonald's may be cooking their hamburgers in the future.

It has an energy savings of 90 percent, can cook 200 hamburgers in an hour, can be used from concession stands for the little soccer clubs in the communities all the way to large concession opportunities.

If it had not been for the assistance provided through Department of Energy for the development of this technology, this business would not exist in Boley, OK, creating an additional seven jobs which moves the unemployment statistics by percentage points in that small, rural community.

The second company that I would like to mention to you is Custom Molded Plastics. We initially worked with that company in putting together from nine different lending sources, using about $300,000 of equity, a $4.5 million package for creating the largest injected molded plastics industry in Bryan County, which is now the largest in about five Southwestern States.

The first 100 openings for jobs there were 1,000 applications. After putting together a financial package they now have needs for technology transfer—technologies developed by the Department of Energy—that can assist them in the development of their products and processes.

As a result of them becoming competitive, for the first time they are announcing this week that they are bringing back 20 jobs that are now being done in Taiwan to manufacture plastic silverware, that is now being manufactured back in the United States and we would like for you to continue our project. We are requesting $300,000 to continue the ongoing projects that we have for job creation and technology transfer to help make us more competitive.

We appreciate the opportunity to come before you today.

Senator REID. Thank you, Mr. Hardy. This is something we will take a close look at, as you know. This is always a difficult problem, as to whether the Federal Government should be involved in this or it should be State economic development, but certainly you have a track record and that is more than most can say. Thank you very much for your time, both of you.

[The statement follows:]

STATEMENT OF STEVE R. HARDY

SUMMARY REQUEST

Rural Enterprises, Inc. requests continuance of the Department of Energy grant beyond the present first year demonstration project. Knowing that technology transfer is not a short-term solution but a long-term investment, we need to continue this effort which would not only impact Oklahoma but other states with technology transfer needs.

The ultimate goal of global competitiveness and job creation can be seen from the Energy Related Invention's Program, sponsored through the National Institute of Standards and Technology, and the Department of Energy. Through assistance provided by REI, a new product is being manufactured by a minority-owned business in Boley, Oklahoma. Owner Maurice Lee developed the "Instant Burger," with a $75,000 DOE grant. This device passes an electrical current through the meat, cooking it quicker than conventional methods. Out of the many projects given assistance by REI, this is the second to receive DOE funding.

REI is already working with energy-related inventions and federal laboratories for the effective transfer of DOE technologies and development of new products and processes. Continued DOE funding is imperative for future opportunities as well as the completion of current projects. We respectfully request continuance of this demonstration project through an additional $300,000 for 1990 that will provide for even greater opportunities in this leading-edge field.

Mr. Chairman, as President and CEO of Rural Enterprises, Inc., I would like to express my appreciation for the opportunity to address this committee.

Rural Enterprises, Inc. (REI) is a private nonprofit industrial development corporation headquartered in Durant, Oklahoma, which is approximately 90 miles north of Dallas, Texas. The mission of the corporation is to develop new private sector jobs in its service area. Initiated as a national demonstration model, this practical and innovative approach to create new businesses through the free enterprise system is a unique concept that has impact potential for rural development nationwide.

The mission of job creation is carried out by applying a combination of innovative industrial development tools consisting of:

* INNOVATION EVALUATION, the evaluation of new products and processes for licensing to existing manufacturers;

* EVALUATION OF NEW PRODUCTS AND PROCESSES for establishing them as single product industries;

* INCUBATION of businesses through a network of incubators;

* FINANCIAL SERVICES assistance; and

* TECHNOLOGY TRANSFER.

Rural Enterprises has been involved in technology transfer for ten years. In this capacity it has developed management expertise and a support system to carry out its technology

transfer program. This program works with several government agencies including NASA, the Department of Agriculture, the Oklahoma Cooperative Extension Service, and the Small Business Administration. In January the Department of Energy began a demonstration project through REI to draw together technology resources from DOE laboratories that are prime candidates for transfer to the private sector.

In October, 1988, Rural Enterprises, Inc. and the Central Industrial Applications Center (CIAC) merged. The result of this merger is an organization with over 25 years experience in tech transfer. The complementary functions of the two original organizations provide a broad spectrum of services to assist business and industry.

CIAC brings to the organization an expanded established territory comprised of the Central States area including North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. An outreach program is in place with a network of affiliates who serve as points of contact in each of these states for REI/CIAC search services and CUS activities. Through CIAC, information is available from NASA and DOE technical databases and over 500 commercial databases. We also have an internal system which supports the creation and maintenance of three linked databases, including a technology database, an industry database, and a local government database.

REI personnel, with industrial and technology transfer experience, form the Technology Applications Team. The applications team serves as an intermediary between the research scientists and private business. They provide the technical expertise necessary to help define problems and provide assistance to private industry in identifying and applying technology. This assistance is essential to small businesses who are usually oriented toward production and marketing but lack research and development capabilities.

Through the support of the DOE, Rural Enterprises has begun a program to commercialize DOE technologies by utilizing the experience and existing facilities currently available. Three elements are necessary in this program: (1) the concept of technology transfer must be marketed to small business; (2) a demonstration project must be carried out, as a proof-of-concept example to industry and as a learning tool; and (3) a continuing program of assistance must be available through the development and adaptation of technology to commercial application.

The first two elements have been initiated. Presentations by our field representatives promote the availability of DOE technologies; and, data is being assembled on the programs and expertise of the individual labs. On-site observations of four DOE labs will be conducted this year. At this time three technologies have been identified as potential demonstration projects. Actual commercialization of these technologies, however, is contingent upon DOE support.

Rural Enterprises, Inc. has a history of innovative accomplishments including technology transfer to small businesses and business incubator programs which were in place years before they became a familiar concept. With continued financial and technical support from the DOE, the survival of these proven concepts and promising new ideas can be ensured.

Traditionally, technology transfer efforts have emphasized the use of "ready-made technologies" available from the labs. However, more efficient use of these technologies can be achieved

through: (1) the use of technical expertise and involvement of the laboratory people and (2) the combination of technology from multiple laboratory sources to solve an industry problem or create a product. These resources/opportunities can best be utilized by grant recipients.

REI has developed a computerized software program to match available technologies with industrial clients' capabilities. With continued support, this program will be expanded to include expertise of the laboratories beyond specific technologies. An expanded program of lab visits and tech transfer interaction will encourage a rapport among REI, the industrial clients, and the DOE laboratories.

REI is in a prime position to combine technologies with its direct ties to DOE, NASA, USDA, and other federal labs through the Federal Laboratory Consortium. For example, one of the potential demonstration projects, a high temperature dehumidifier for lumber drying, may incorporate a DOE acoustic heat pump with a NASA or Navy acoustic driver in an area of concern to the USDA.

More emphasis should be placed on technology transfer to established small businesses. These business people have already proven themselves as capable enterpreneurs. Much of the commercialization of laboratory technology occurs when scientists leave the laboratory to begin their own businesses. While some of these people are both capable scientists and business people, some of the most innovative of these people are not business oriented. Because of the frequent difference in interests and abilities of the entrepreneurs and the laboratory scientists, an "interpreter" is needed as an intermediary to ensure that the needs of both parties are met.

The laboratories must be expected to contribute to the adaptation and development of technologies if both the laboratory and the industry are to receive the benefits of commercialization. Since a laboratory development staff is not feasible, this process will be better served by selecting individual consultants on a project-by-project basis. Expert consultants will be selected in the particular technology and in the field of the commercial application of this technology, which may be quite different from its originally intended application. The coordination of a program such as this -- bringing together the entrepreneur, the laboratory scientists, and the consultants -- is best handled by an independent entity such as Rural Enterprises, Inc. with contacts among all of these groups.

REI would like to review the energy related inventions that have gone through the DOE program and have not been picked up by a manufacturer. We would also be of value to the Department of Energy by pre-screening the inventions that are submitted and offering an evaluation of their commercial and technical potential. This would save the DOE time and expenses normally incurred when they send inventions to private consultants.

Mr. Chairman, this project made possible through the Department of Energy, would allow REI to continue its technology transfer efforts in economically depressed areas where they are most needed. With this committee's assistance in continued funding, REI will be able to help its clients and the United States remain economically competitive.

The attention being paid to this important area by Congress is greatly appreciated, and I thank you for the opportunity to present our request.

NEW YORK AND NEW JERSEY NAVIGATION PROJECTS

STATEMENT OF LILLIAN C. LIBURDI, DIRECTOR, PORT DEPARTMENT, THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

ACCOMPANIED BY ANTHONY M. RICCIO, JR., COMMISSIONER OF PORTS AND TRADE, NEW YORK CITY

Senator REID. The next witnesses is the Port Authority of New York and New Jersey. If you would please come forward and also the New Jersey Maritime Advisory Council, Kenneth LeFevre.

Lillian Liburdi.

Ms. LIBURDI. Good morning, Mr. Chairman. I am the director of the Port Department of the Port Authority of New York and New Jersey. Joining me this morning are Joseph T. Grossi, who is the executive director of the Maritime Advisory Council of the New Jersey Department of Commerce, Energy and Economic Development, and Anthony M. Riccio, Jr., who is the commissioner of ports and trade of the City of New York.

Mr. Chairman, we appreciate the opportunity to present our views and recommendations, which also reflect those of 27 civic, trade, labor, and governmental organizations in our two States regarding these appropriation matters. The full text of our comments has been provided for the record.

The Kill Van Kull and Newark Bay channels harbor deepening project authorized for construction in the fiscal year 1985 Supplemental Appropriation Act has been under construction since the summer of 1985. Without going into detail about this year we believe it is appropriate to say we support the zero budget recommendation for the Kill Van Kull and Newark Bay channel project in the fiscal year 1990 budget as a wise and prudent use of Federal funds, but we look forward to the appropriation of the necessary funds in fiscal 1991 to achieve project completion.

With regard to the New York Harbor collection and removal of drift project, as you know it is aimed at the removal of approximately 2,000 sunken hulks and over 150 decaying shore structures that are the sources of dangerous, unsightly, and costly harbor drift.

The Corps of Engineers has estimated that nearly 18,000 commercial, public, and recreation vessels collide annually with drift in our port, causing damage to propellers, shafts, and hulls. The annual associated repair costs and other economic losses average more than $48 million.

No funds have been requested for this project due to the prior Federal spending limit. That limit has been corrected and we are now requesting $1.9 million, $1 million be appropriated to the Corps of Engineers to prepare engineering and design work along the Brooklyn, Bayonne, Staten Island, and Jersey City waterfronts. Local share funding is available for this project and our concern is that failure to appropriate these funds will seriously delay the removal of this debris.

Mr. Chairman, I also wish to bring to your attention an increasingly serious problem threatening the accomplishment of the mission of the New York District Corps of Engineers. The district has been unable to retain, or in many cases even hire, qualified and ex-

perienced managers, engineers, scientists, and other key personnel in sufficient numbers to serve our region because Federal salaries are not competitive and are woefully inadequate when compared to the private sector.

According to the Federal Executive Board, Federal salaries in our region typically lag between 25 to 45 percent behind private sector salaries. If left unattended, the present situation will escalate very soon to crisis proportions and we, the beneficiaries of the Corps projects, will suffer the real consequences of this problem economically. We urge that salary problems be addressed and remedied without further delay.

In closing my comments, Mr. Chairman, I would like to make one final note in support of a project that is neither in my printed statement nor in the President's budget. Shinnecock Inlet on the east end of Long Island is in desperate need of dredging and jetty repair.

Lives have been lost recently as a consequence of the dangerous conditions that exist there. Dredging could resolve those problems. The construction planned by the Corps and supported by the State of New Yorks plans requires $5.6 million in appropriations in fiscal year 1990 and will be of great economic importance to the local fishing fleet which generates approximately $20 million a year in local regional revenue.

I understand that Commissioner Tom Jorling of the New York Department of Environmental Conservation has a statement that goes into some detail on this.

I would like to now turn to Mr. Grossi who will continue our testimony.

Senator REID. I'm sorry, but that is all the time we have. I am late for another appointment. We appreciate your testimony and you should recognize that you certainly do better than most. As you know, most everything that you have asked for has been put in the President's budget and the few things you have not are normally studies and things of that nature, so you have done very well.

Ms. LIBURDI. Well, we appreciate that, Mr. Chairman. There are a few areas though we would hope the committee would look a little bit further at, because they are not studies, they are work designed to move programs forward, but we do appreciate your attention and support.

Senator REID. We had testimony earlier in the week on the Shinnecock project by your congressman, Hornbockner—or, I may be wrong on how to pronounce it, but you know who I mean and he did a very good job. Thank you.

Ms. LIBURDI. Good. Thank you.

Senator REID. Does the Port Authority of New York have anything to say?

You are the Port Authority of New York and New Jersey? OK. You did a great job.

How about you, Mr. LeFevre? New Jersey Maritime Advisory Council. Please go ahead. I thought we had others raring to go. We have time for you.

STATEMENT OF JOSEPH T. GROSSI, EXECUTIVE DIRECTOR OF THE MARITIME ADVISORY COUNCIL, NEW JERSEY DEPARTMENT OF COMMERCE, ENERGY AND ECONOMIC DEVELOPMENT

Mr. GROSSI. Mr. Chairman, members of the committee, my name is Joseph T. Grossi. I am not even going to read the statement. As we stand right now, I would just like to explain that New Jersey is a peninsular surrounded on three sides by water, so as such all of our port facilities are bi-State port facilities. We were here to support the Port Authority of New York and New Jersey's projects, as we were here also to support those projects on the Delaware River in both Delaware, Pennsylvania, and Camden, NJ, and Gloucester. in the interests of time, I would just ask at this point that you make our written testimony part of the record.

Senator REID. We will do that.

Mr. GROSSI. I thank you for giving me the opportunity to be here this morning.

Senator REID. You know, we sometimes feel that we are putting upon people for not giving you more attention in this hearing, but you should be advised that there have been a number of presentations already made. We have all the charts and the graphs and the figures, so we really have everything, I think we need to adequately make a decision on your request.

So we appreciate very much the time and effort that you have taken to be here and I see you moving your microphone—the City of New York is—we do not have you on the witness list and I have a whole panel of people, Senators, waiting for me. I was supposed to testify early this morning.

Mr. GROSSI. Mr. Chairman, our testimony is included and we are a joint participant in the preparation completed by Lillian. Thank you.

Senator REID. I frankly wish that all parties seeking money were as well represented and prepared as you have been. You have done an excellent job and we will try to reciprocate and do a good job for you. Thank you very much.

All of your statements will be made part of the record.

[The statements follow:]

JOINT STATEMENT

LILLIAN C. LIBURDI, DIRECTOR, PORT DEPARTMENT
THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY
THE HONORABLE BORDEN R. PUTNAM, COMMISSIONER OF
COMMERCE, ENERGY AND ECONOMIC DEVELOPMENT
THE STATE OF NEW JERSEY
AND
THE HONORABLE ANTHONY M. RICCIO, JR.
COMMISSIONER OF PORTS AND TRADE
THE CITY OF NEW YORK
ON BEHALF OF APPROPRIATIONS IN FISCAL YEAR 1990
FOR FEDERAL CHANNEL & RELATED DEVELOPMENT IN THE PORT OF NEW YORK &
NEW JERSEY PRESENTED TO THE SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
HOUSE AND SENATE COMMITTEES ON APPROPRIATIONS
CONGRESS OF THE UNITED STATES
WASHINGTON, D.C.

APRIL 12, 1989

Endorsed By

Bayonne Chamber of Commerce (NJ)
Board of Commissioners of Pilotage of the State of New Jersey
Brooklyn Chamber of Commerce (NY)
Chamber of Commerce of the Borough of Queens (NY)
City of Newark, Department of Engineering (NJ)
Commerce and Industry Association of New Jersey
Greater Newark Chamber of Commerce (NJ)
Hudson County Chamber of Commerce and Industry (NJ)
International Longshoreman's Association
Local 333 - United Marine Division
Maritime Advisory Council of New Jersey
Maritime Association of the Port of New York and New Jersey
Maritime Port Council of Greater New York and Vicinity
New Jersey Alliance for Action
New Jersey Citizens Transportation Council
New Jersey State Chamber of Commerce
New York Board of Trade
New York Chamber of Commerce and Industry
New York-New Jersey Port Promotion Association
New York Shipping Association, Inc.
Save Our Port
Staten Island Chamber of Commerce (NY)
Towboat and Harbor Carriers Association of New York and New Je
Union County Chamber of Commerce (NJ)
Union County Planning Board (NJ)
United New Jersey Sandy Hook Pilots Benevolent Association
United New York Sandy Hook Pilots Benevolent Association

I am Lillian C. Liburdi, Director, Port Department of The Port Authority of New York and New Jersey. Joining me are Borden R. Putnam, Commissioner of Commerce, Energy and Economic Development, the State of New Jersey and Anthony M. Riccio, Jr., Commissioner of Ports and Trade, the City of New York. Together we share the responsibility of also representing the 27 civil, trade, labor and governmental interests listed on the cover of this statement in urging that sufficient Federal funds be appropriated in Fiscal Year 1990 for essential navigation projects in the Port of New York and New Jersey under the Civil Works program of the US Army, Corps of Engineers. We appreciate the opportunity to present our views and recommendations in these matters to the distinguished members of this Subcommittee.

We are keenly avare of the nation's fiscal condition that confronts you in your decision making. However, given the role user fees have in supporting part of the navigation program and the benefit, economic and social, provided by the program, we do not hesitate to state that an adequate share of Federal funding for navigation channels must continue for ports.

The recommended funding levels contained herein constitute the basic minimum which is needed for the Port of New York and New Jersey. A summary of our recommendations appears on the following page.

KILL VAN KULL AND NEWARK BAY CHANNELS, NY & NJ

The Kill Van Kull and Newark Bay Channels, NY & NJ is a harbor deepening project that was authorized for construction in the Fiscal Year 1985 Supplemental Appropriations Act (Public Law 99-88) and The Water Resources Development Act of 1986 (Public Law 99-662). The Port Authority is providing local cooperation and the $51 million non-Federal cost for this project.

With the deepening of the channels from 35 feet to 40 feet more than half complete, the Corps of Engineers is now entering a critical phase of construction consisting largely of rock removal through blasting. Unforeseen but not insurmountable problems concerning vessel movements and safety through this busiest channel in our port have compelled the Corps to proceed slowly and cautiously. This has resulted in a slower than anticipated expenditure of appropriated funds this fiscal year requiring significant carryover of these funds into Fiscal Year 1990. We, therefore, support the zero budget recommendation of this project in Fiscal Year 1990 as a wise and prudent use of Federal funds and we look forward to your appropriating the necessary funds in Fiscal Year 1991 to achieve project completion.

NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT PROJECT, NY & NJ

The New York Harbor Collection and Removal of Drift Project, NY & NJ is aimed at the removal of approximately 2,230 sunken hulks and 149 decaying shore structures that are the sources of dangerous, unsightly and costly harbor drift. The Corps of Engineers has estimated that nearly 18,000 commercial, public and recreation vessels collide annually with drift in our port causing damage to propellers, shafts and hulls. In addition, annual associated repair costs and other economic losses average greater than $48 million.

Mr. Chairman, we are disappointed that the proposed budget for Federal Fiscal 1990 contains no funds for this project despite a projected Corps capability in FY90 for this newly reauthorized project. We urgently request your help by appropriating funds for this project which enjoys widespread local support and for which the matching local share is ready.

	Budget Recommendation	Port Recommendation	Difference
CONSTRUCTION			
Kill Van Kull and Newark Bay Channels, NY & NJ	Zero	Zero"	
New York Harbor Collection and Removal of Drift, NY & NJ	Zero	$1,900,000	$1,900,000
STUDY			
New York Harbor and Adjacent Channels (Port Jersey Channel), NJ	$600,000	600,000	None
New York Harbor and Adjacent Channels (Claremont Channel), NJ	Zero	300,000	300,000
Red Hook Flats Anchorage, NY	Zero	400,000	400,000
Emergency Response Services	Zero	2,000,000	2,000,000
SUBTOTAL	$600,000	$5,200,000	$4,600,000
OPERATION & MAINTENANCE			
Cheesequake Creek, NJ	Zero	60,000	60,000
Keyport Harbor, NJ	Zero	600,000	600,000
Matawan Creek, NJ	Zero	250,000	250,000
Sandy Hook Bay, NJ	Zero	50,000	50,000
Shoal Harbor & Compton Creek, NJ	Zero	600,000	600,000
Shrewsbury River, NJ	Zero	1,100,000	1,100,000
Way Cake Creek, NJ	Zero	50,000	50,000
SUBTOTAL	Zero	$2,710,000	$2,710,000
TOTALS	$600,000	$7,910,000	$7,310,000

Due to spending limitations this fiscal year resulting from what remained of the project authorization in 1988, the Corps was not permitted to prepare adequate engineering and design work that would evolve into construction. Now, with the project extended, our request for $1,900,000 is a modest one when compared to the large amount of construction work that remains to be completed. It is also modest in comparison to the new $6 million authorization. Specifically, these funds would be used to resurrect engineering and design work along the Brooklyn, Bayonne, Staten Island (Arthur Kill) and Jersey City waterfronts so that an expanded construction program can be implemented in Federal Fiscal 1991. We believe this amount will serve to lay the groundwork for a more comprehensive program in the coming fiscal years. To appropriate nothing will needlessly delay project completion for years and result in higher costs. We, therefore, strongly urge that $1,900,000 be appropriated for the New York Harbor Collection and Removal of Drift Project in Fiscal Year 1990.

The remainder of our presentation will be provided by Commissioners Putnam and Riccio.

* * * * * *

Thank you, Mrs. Liburdi. Mr. Chairman and distinguished members of the Subcommittee, I am Borden R. Putnam, Commissioner of New Jersey's Department of Commerce, Energy and Economic Development. In that capacity, I also serve as Honorary Chairman of the Department's Maritime Advisory Council. The Council was established to emphasize New Jersey's position as a maritime state and to coordinate statewide waterfront development in the State.

NEW YORK HARBOR AND ADJACENT CHANNELS (PORT JERSEY CHANNEL), NJ

The New York Harbor and Adjacent Channels (Port Jersey Channel), NJ presently serves 13 shipping lines at the Global Marine Container Terminal. In 1988, this facility handled 296 vessel arrivals with over 231,000 container units. More than 425 terminal employees with an annual payroll of nearly $21 million as well as another 107 contract workers depend on this facility for their livelihood. As a privately owned terminal, Global pays in excess of $1.5 million in local real estate taxes annually. In addition, the channel also provides access for the U.S. Army Military Ocean Terminal and the newly constructed Port Authority Auto Marine Terminal. This project was authorized for construction by the Water Resources Development Act of 1986.

With $600,000 budgeted in Fiscal Year 1990, the Corps of Engineers will complete pre-construction engineering and design to initiate the construction of improvements to Port Jersey Channel in Fiscal Year 1991. We wholeheartedly support the budget recommendation and urge that these funds be appropriated in Fiscal Year 1990.

CLAREMONT CHANNEL, NJ

Claremont Channel is presently a non-Federal Channel at an average depth of 27 feet mean low water located just north of the Port Jersey Channel. A project to deepen Claremont Channel to 42 feet mean low water was authorized for construction subject to a favorable report by the Secretary of the Army in the Water Resources Development Act of 1986 (Public Law 99-662). The major users of the channel are two large scrap metal companies and an oil company. For the past 10 years, scrap metal exports have averaged more than 600,000 long tons per year with receipt of petroleum products averaging greater than 2,100,000 barrels per year.

No funds are contained in the Fiscal Year 1990 budget for the Corps of Engineers to initiate pre-construction work on this project. Thus, we request that $300,000 be appropriated in Fiscal Year 1990 for pre-construction engineering and design work for improvements to Claremont Channel.

OPERATION & MAINTENANCE

Besides being the primary port of call for many deep draft ocean going vessels, the Port of New York and New Jersey is home to numerous commercial fishing vessels. A majority of these vessels operate from small rivers and harbors within the Port that have benefited from channel improvement projects undertaken by the Corps of Engineers. While the commerce tonnage generated by these projects may be individually small, they are nevertheless collectively an important contribution to the fishing industry and economic vitality of this metropolitan region.

There are seven Federal navigation projects in New Jersey that require funds for maintenance dredging in Federal Fiscal 1990 but are presently unbudgeted. We are requesting that $2,710,000 be appropriated. These funds would be used to dredge four projects - Keyport Harbor, Matawan Creek, Shoal Harbor and Compton Creek, and Shrewsbury River - and undertake the preparation of pre-maintenance dredging plans and specifications for the remaining three projects - Cheesequake Creek, Sandy Hook Bay and Way Cake Creek.

I will now ask Commissioner Riccio to elaborate on our remaining funding recommendations for the Port.

Thank you, Commissioner Putnam. I am Anthony M. Riccio, Jr., Commissioner of Ports and Trade, the City of New York. The projects which Mrs. Liburdi and Commissioner Putnam have discussed are of great importance to the Port. The appropriation of Federal funds to deepen our navigation channels is essential to the success of our port and to the future growth and vitality of our marine terminal facilities.

RED HOOK FLATS ANCHORAGE, NY

Presently, there exist three anchorage areas in the Lower and Upper New York Bays that accommodate ocean going general cargo ships and tankers. There is no additional capacity within these anchorages to accommodate today's modern vessels. The anchorages were designed by the Corps of Engineers in the early 1960's for a vessel averaging 525 feet in overall length with a draft of 30 feet. Today's modern container ships are almost 1,000 feet long with drafts of 40 feet therefore requiring additional space and depth beyond that allowed for in the original design. If the port is to remain productive, it must modernize to accommodate today's vessels. We, therefore. urgently request that $400,000 be made available to the Corps of Engineers for a reconnaissance study for the deepening of Red Hook Flats. The Corps has the authority to undertake this study under a Congressional resolution adopted by the Senate Committee on Environment and Public Works on December 5, 1980. No funds for this effort are presently in the proposed Fiscal Year 1990 Budget. We strongly urge that $400,000 be provided for this study.

EMERGENCY RESPONSE SERVICES

The Water Resources Development Act of 1986 authorized the availability of grants for Emergency Response Services under Section 212. For the past two years of testimony, the port community has requested before this Subcommittee that funds be made available as a grant for the acquisition of new fireboats. For Fiscal Year 1990, we are requesting that Congress appropriate the sum of $2,000,000.

The City of New York fireboats respond to fires throughout the harbor, an area that covers over 700 miles of waterfront. During a typical year, our fireboats handle over 2,500 requests for assistance and conduct nearly 4,000 inspections of waterfront structures. They respond to emergencies on both sides of the harbor, in New Jersey as well as in New York.

New York Harbor handles thousands of containerships, bulk carriers and other commercial vessels and is the home to cruise ships, barges transporting oil and other chemicals including a growing commuter ferry system. The City's marine division works closely with the Coast Guard and other agencies regarding the shipping of hazardous cargo.

Our fleet of fireboats is aging quickly. We have six fireboats in the marine division with two built prior to 1940. We must not only replace the older vessels, but expand our fleet to meet the demands of an active commercial harbor. It is critical that there exist a modern fleet to fight fires and prevent losses to lives and property. In addition, the City of Newark, New Jersey, has expressed a total funding requirement of $1,000,000 to assist in replacing its one fireboat. This would be a welcome improvement to the firefighting capability of the Port.

No funds are included in the Federal Budget for this project. We strongly urge that $2,000,000 be provided in Fiscal Year 1990 for this project. This will permit us to begin procurement of state-of-the-art vessels to provide the necessary fire protection in a Port that handled more than 5,300 merchant vessel arrivals and an estimated 68 million net tons of cargo in 1988.

* * * * * *

On behalf of Mrs. Liburdi, Commissioner Putnam and myself, let me thank you for the courtesy of presenting our recommendations to you. We will be pleased to try to answer any questions you may have.

STATEMENT OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE, I AM THOMAS C. JORLING, COMMISSIONER OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION. I AM HERE TO URGE YOUR SUPPORT FOR FULL APPROPRIATIONS ($400,000) FOR SECTION 49 OF THE WATER RESOURCES DEVELOPMENT ACT OF 1988, AND SECTION 22 OF THE WATER RESOURCES DEVELOPMENT ACT OF 1974 ($300,000), AND FOR $750,000 FOR SECTION 214 OF THE 1958 RIVER AND HARBOR ACT. I AM ALSO SEEKING SUPPORT FOR FULL FUNDING OF THE NEW YORK STATE BARGE CANAL AND FOR HARBOR IMPROVEMENT FUNDING.

NEW YORK STATE IS NOW IN THE MIDST OF A WATER SUPPLY EMERGENCY DECLARED ON MARCH 16 BY GOVERNOR CUOMO. DROUGHT CONTINGENCY PLANS ARE IN FORCE. SOUTHEASTERN NEW YORK STATE IS PARTICULARLY HARD-HIT. THE NEW YORK CITY METROPOLITAN RESERVOIR SYSTEM IS 165 BILLION GALLONS BELOW NORMAL. COMMERCIAL AND INDUSTRIAL RESTRICTIONS ARE IN PLACE. THIS SYSTEM SUPPLIES MUCH OF SOUTHEASTERN NEW YORK. NINE MILLION PEOPLE, INCLUDING RESIDENTIAL AND COMMERCIAL USERS IN FOUR COUNTIES AND COMMUTERS FROM TWO OTHER STATES, DEPEND ON IT. EVEN PENNSYLVANIA, DELAWARE AND NEW JERSEY DEPEND ON THE RELEASES FROM THE NEW YORK CITY RESERVOIR SYSTEM TO SUSTAIN THEIR WATER SUPPLIES. IN OTHER WORDS, THE NEW YORK CITY SYSTEM SUPPLIES THE MOST CONCENTRATED MANUFACTURING AND RETAIL CENTER AND THE FINANCIAL CAPITAL OF THE NATION.

HOWEVER, THE WATER CRISIS IN NEW YORK IS NOT LIMITED TO THE NEW YORK CITY SYSTEM ONLY. HALF OF LONG ISLAND HAS HAD IN PLACE A WATER WITHDRAWAL CAP TO PROTECT THE SOLE SOURCE AQUIFER FROM DEPLETION AND SALT WATER INTRUSION.

THE PROBLEM IS JUST AS SERIOUS IN UPSTATE NEW YORK. MANY OF THE LARGER CITIES DEPEND ON SURFACE WATER LAKES THAT ARE THREATENED. THESE RESOURCES ARE USED FOR OTHER PURPOSES SUCH AS TRANSPORTATION, RECREATION, AND POWER. ALL OF THESE ACTIVITIES ARE INTRINSIC TO THE REGION'S ECONOMY AND EACH IS NOW AT RISK.

WE IN NEW YORK ARE COMMITTED TO RESOLVING OUR WATER SUPPLY SHORTAGE. MANY OF THE INITIATIVES PLANNED ARE RECOMMENDED IN NEW YORK'S OFFICIAL STATEWIDE WATER RESOURCES MANAGEMENT STRATEGY, A COPY OF WHICH I AM SUBMITTING FOR THE RECORD. BRIEFLY STATED, WE ARE ADDRESSING BOTH THE SUPPLY AND DEMAND SIDES OF THE WATER MANAGEMENT EQUATION.

ON THE SUPPLY SIDE, RESERVOIR MANAGEMENT IS BEING REEVALUATED IN LIGHT OF THE CURRENT CRISIS. EXISTING YIELDS MUST BE REEVALUATED, THE SAVINGS FROM MAXIMUM EFFECTIVE CONSERVATION PROGRAMS CALCULATED, RESERVOIR WATER RELEASE POLICIES ANALYZED, AND ADDITIONAL CAPACITY NEEDS ASCERTAINED. PERHAPS ALTERNATIVE SOURCES AND ACTIONS CAN BE RECOMMENDED AND THE ARDUOUS TASK OF WORKING THOSE ALTERNATIVES THROUGH THE POLITICAL PROCESS BEGUN. FOR EXAMPLE, THERE IS A POSSIBILITY FOR A SMALL ADDITIONAL EMERGENCY WATER SUPPLY FROM THE HUDSON RIVER THIS YEAR. HOWEVER, THE IMPACT OF THIS ACTION ON THE EXISTING RIVER WATER USERS MUST BE ASCERTAINED AND ENVIRONMENTAL IMPACTS DOCUMENTED. AS USE OF HUDSON RIVER WATER INCREASES, EXISTING USERS MUST BE SAFEGUARDED AS THE SALT WATER WEDGE MOVES FARTHER UP THE HUDSON RIVER, RENDERING USELESS MANY OF OUR HISTORICALLY SAFE SUPPLIES. A SOLUTION TO THIS PROBLEM IS OUTLINED IN THE WATER STRATEGY AND MUST BE IMPLEMENTED. YET THERE IS NO WAY TO ACCOMPLISH LARGE SCALE EXPANSION OF SUPPLIES IN TIME TO EASE THE CURRENT SITUATION. THE IMMEDIATE NEED IS FOR BETTER MANAGEMENT OF BOTH EXISTING SUPPLIES AND OF THE DEMAND UPON THOSE

SUPPLIES. BETTER DEMAND MANAGEMENT ACTIONS THAT CAN CONTROL WATER USAGE YET ALLOW COMMUNITIES TO FUNCTION WITHIN A RANGE OF NORMALCY MUST BE AGGRESSIVELY INSTITUTED OR EXPANDED. THIS APPROACH IS CRITICAL TO THE SURVIVAL OF THE AREA'S ECONOMY. BETTER WATER ACCOUNTING PRACTICES MUST BE TAUGHT TO MUNICIPAL WATER MANAGERS. WATER METERING AND WATER PRICING BASED ON USE MUST BE IMPLEMENTED STATEWIDE. TOWARD THOSE ENDS, GOVERNOR CUOMO HAS PROPOSED LEGISLATION IN THE NEW YORK STATE LEGISLATURE TO REQUIRE WATER METERING IN ALL OF THE MUNICIPALITIES IN THE STATE AND TO REQUIRE MORE WATER EFFICIENT WATER FIXTURES. ADDITIONALLY, LEAK DETECTION AND SYSTEM REHABILITATION PROGRAMS NEED TO BE INITIATED OR EXPANDED. RESIDENTIAL AND COMMERCIAL INDUSTRIAL RETROFITS THAT ALLOW MAINTENANCE OF INDUSTRIAL PRODUCTION AND PERSONAL LIFESTYLES NEED TO BE IMPLEMENTED. IT IS CLEAR THAT THESE KINDS OF ACTIONS SAVE MONEY AND ENERGY AS WELL AS WATER. IN ADDITION, WATER USE PRIORITIES MUST BE ESTABLISHED AMONG COMPETING USERS. THIS WILL BE A DIFFICULT AND TIME CONSUMING TASK, YET OUR STATE-ADOPTED WATER RESOURCES STRATEGY HAS ALREADY PROVIDED AN OUTLINE FOR ACTION. WE NEED THE FUNDS TO CARRY IT OUT. FULL APPROPRIATIONS FOR SECTION 49, SECTION 214 AND SECTION 22 WILL GREATLY ASSIST IN THIS ENDEAVOR.

MR. CHAIRMAN, THESE FUNDS ARE FOR WATER RESOURCES INVESTIGATIONS, RESEARCH AND DEVELOPMENT. THEIR USE IS SUPPORTED BY A WIDE RANGE OF INTERESTS FROM SMALL, LOCAL GOVERNMENTS TO NEW YORK CITY, AND FROM THE WATER RESOURCES INSTITUTE AT CORNELL TO THE NEW YORK STATE WATER RESOURCES PLANNING COUNCIL. THESE FUNDS WILL SUPPORT INITIATIVES RECOMMENDED IN THE STATEWIDE WATER RESOURCES STRATEGY. THE FUNDS ARE IMPORTANT BECAUSE THEY BRING TOGETHER LOCAL, STATE, AND FEDERAL INTERESTS TO SOLVE PRESSING PROBLEMS. THE RESULT WILL BE AN IMMEDIATE TECHNOLOGY TRANSFER TO THOSE WILLING TO TEST IT, USE IT, REEVALUATE IT, AND TEST IT AGAIN. THE CONGRESS HAS PROVIDED A SOUND DIRECTION AND AN INSTITUTIONAL CONSTRUCT IN THE AUTHORIZATIONS. WE NEED ADEQUATE APPROPRIATIONS TO MAKE THEM WORK.

SECTION 22 COST SHARING

ON ANOTHER MATTER, SECTION 22 FUNDING IS THREATENED ON TWO FRONTS. THE UNITED STATES OFFICE OF MANAGEMENT AND BUDGET (OMB) HAS CUT THEM IN HALF AND IS REQUESTING THE STATES TO COST-SHARE THE REDUCED APPROPRIATION ON A 50/50 BASIS. IN 1986, THE STATES COMPROMISED WITH THE ADMINISTRATION TO PASS A FUNDAMENTAL PIECE OF LEGISLATION, THE WATER RESOURCES DEVELOPMENT ACT OF 1986. THE COMPROMISE PROVIDED FOR ASSUMPTION BY THE STATES OF INCREASED PROJECT AND FEASIBILITY STUDY COSTS IN EXCHANGE FOR FULL FEDERAL FUNDING FOR RECONNAISSANCE LEVEL STUDIES. THE SECTION 22 FUNDS ARE RECONNAISSANCE LEVEL FUNDS. IF APPROPRIATED, AS PROPOSED BY OMB, EACH STATE STANDS TO LOSE UP TO $150,000. THE FULL ALTHORIZATION SHOULD BE APPROPRIATED AND THE COST-SHARING REJECTED.

SHINNECOCK INLET

THE PORT OF SHINNECOCK IS NEW YORK'S PREMIER COMMERCIAL FISHERIES PORT AND SHINNECOCK INLET IS REGULARLY TRAVERSED BY 50 COMMERCIAL FISHING VESSELS OPERATING IN THE ATLANTIC OCEAN. IN ADDITION, LARGE NUMBERS OF CHARTER AND RECREATIONAL FISHING BOATS PASS THROUGH THE INLET. IN RECENT YEARS, SHOALING HAS MADE NAVIGATION OF THE INLET DIFFICULT AND HAZARDOUS FOR THE AREA'S COMMERCIAL FISHING FLEET AND OTHER VESSELS. THREE FISHING VESSELS HAVE BEEN LOST SINCE OCTOBER, 1987, AND THREE MEN HAVE PERISHED.

THE CORPS OF ENGINEERS HAS COMPLETED PLANS AND SPECIFICATIONS FOR THE DREDGING PORTION OF THE AUTHORIZED PROJECT WHICH WOULD REMOVE THE NAVIGATIONAL HAZARDS AND PROVIDE MATERIAL TO STRENGTHEN THE DUNE SYSTEM. WE URGE AN APPROPRIATION OF $5.6 MILLION TO FUND THE FEDERAL SHARE OF THIS CRITICALLY NEEDED PROJECT IN FY 90.

NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT

THIS PROGRAM PROVIDES FOR THE REMOVAL OF DERELICT VESSELS, DETERIORATED SHORELINE STRUCTURES, AND SOURCES OF FLOATING DRIFT. IT HAS RESULTED IN MAJOR WATERFRONT REVITALIZATION IN EVERY PROJECT REACH COMPLETED TO DATE, AS WELL AS REDUCTION OF NAVIGATIONAL HAZARDS.

THIS VITAL PROGRAM HAS LOST MOMENTUM IN RECENT YEARS AS EXPENDITURES APPROACHED THE CONGRESSIONALLY AUTHORIZED ABSOLUTE FUNDING CAP OF $30.5 MILLION. THE WATER RESOURCES DEVELOPMENT ACT OF 1988 ELIMINATED THE PROJECT CAP IN FAVOR OF AN ANNUAL LIMIT OF $6 MILLION.

THE STATE OF NEW YORK JOINS THE STATE OF NEW JERSEY, THE CITY OF NEW YORK, AND THE VARIOUS INTERESTS REPRESENTED BY THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY, IN URGING AN APPROPRIATION OF $1.9 MILLION FOR THIS PROGRAM FOR FY 90.

BARGE CANAL

NEW YORK SEEKS FULL APPROPRIATION OF THE $15 MILLION AUTHORIZATION FOR THE NEW YORK STATE BARGE CANAL. THE CORPS OF ENGINEERS HAS DONE A COST BENEFIT ANALYSIS OF THE CANAL WHICH IS A MULTI-PURPOSE WATERWAY SYSTEM AND FOUND THAT THIS LEVEL OF EXPENDITURE IS WORTHWHILE. IN VIEW OF THIS AND THE FUNDAMENTAL AGREEMENT TO PROVIDE FUNDING FOR THE CANAL AS OUTLINED IN PL 99-662, NEW YORK STATE BELIEVES THAT THIS PROGRAM SHOULD BE FUNDED AT THE LEVEL AUTHORIZED.

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE, THANK YOU FOR THE OPPORTUNITY TO APPEAR BEFORE YOU TODAY. I WILL BE HAPPY TO ANSWER ANY QUESTIONS YOU MAY HAVE.

ATTACHMENT TO TESTIMONY PRESENTED BY

THE NEW YORK STATE DEPARTMENT

OF ENVIRONMENTAL CONSERVATION

BEFORE THE

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS SUBCOMMITTEE

REGARDING THE NEW YORK STATE BARGE CANAL SYSTEM

Statement of NYSDOT for Inclusion in the Hearing Record

The 524 mile New York State Barge Canal System is a valuable link in the nation's system of inland waterways. It connects the Hudson River and the Atlantic seaboard to the Great Lakes, Lake Champlain and the St. Lawrence River. The Canal provides substantial benefits for navigation, flood control and hydroelectric power, as well as for recreation, water supply and irrigation. The Corps of Engineers has historically assumed responsibility for funding the operation, maintenance and construction of inland waterway facilities which provide navigation, flood control and hydroelectric benefits. However, until FY 1988, the New York State Barge Canal system was the only link in the national system providing such benefits which was required to be fully funded by the State and not the Corps of Engineers.

Recognizing this inequity, the Water Resources Development Act of 1986 (P.L. 99-662) contains an authorization of Federal funding for the New York State Canal System. This provision

authorizes the Secretary of the Army to reimburse the State for 50 percent of the cost of operation and maintenance of the Canal. In addition, it authorizes reimbursement of the State for up to 50 percent or $5 million, whichever is less, of the cost of rehabilitating the Canal. Given present operating and maintenance costs, under these provisions the maximum Federal participation would be limited to about $15 million annually.

To implement this authorization, the Congress specifically earmarked $10 million for the New York State Barge Canal in the Conference Report which accompanied the FFY 1988 Energy and Water Development Appropriations Act. However, the Administration would only release $5 million--half of the earmarked amount--for the Canal in FFY 1988. No funds were budgeted by the Corps or appropriated for the Canal for FFY 1989. Furthermore, despite the findings of a Corps of Engineers study completed in August 1988 in which the Corps confirmed the substantial national interest in the navigation, flood control and hydropower benefits provided by the Canal, the Corps did not include an appropriation for the Canal in their FFY 1990 budget which is being considered by this Committee. In excluding funding for the Canal from their budget, the Corps ignores the flood control and hydropower benefits derived from the Canal and cites what they perceive as a declining volume of commercial traffic. However, recent statistics show steady increases in the tonnage of commercial traffic since 1985.

The major finding of the Corps' report is that the annual benefits derived from the Canal System for navigation, flood control and hydropower are $25.6 million. However, in computing benefit-cost ratios the report does not point out that, with the exception of the $5 million provided by the Corps last year, all of the costs associated with the Canal are funded by the State of New York, not by the Federal government, as is the case elsewhere. Federal financial responsibility is an axiom of Corps' benefit-cost analyses. Therefore, only Federal dollars should be used in this calculation. To represent the Federal interest in the Canal properly, the value of annual benefits usually considered for Corps projects (i.e. navigation, flood control and hydropower) should be divided by the Federal contribution to the operation, maintenance and capital improvement of the Canal. The fact that New York chooses to invest State funds to achieve recreational and other benefits should not enter into the calculation of Federal benefits and costs.

If the national benefits of the Canal acknowledged by the Corps' analysis ($3 million for navigation, $9 million for flood control and $13.6 million for hydropower) are divided by the $5 million of Federal funds which were provided for FY 1988, the Federal benefit-cost ratio of the Canal is 5.12. If the full amount of Federal support which is authorized by PL 99-662 ($10 million, which is 50% of the cost of O&M, and $5 million for Capital) were to be provided for the Canal, the benefit-cost ratio would still be 1.7. The point is that the Canal does provide substantial national benefits and that these benefits justify Federal support at least at the level authorized by PL 99-662.

Funding which is provided for the Canal System by the State should not prejudice the determination of the justification of the Canal as a Corps project, especially at a time when cost sharing for water resource projects is a national policy objective. New York State will continue to provide funding to obtain Canal benefits for the residents of the State regardless of whether Federal assistance is forthcoming, although

the funding level has not been sufficient to meet all rehabilitation needs. However, the Federal government should assume responsibility for the funding needed to enable achievement of those benefits that are acknowledged to be national in character and paid for by the Federal government everywhere except on the New York State Canal System.

To provide equitable treatment for New York State, we urge you to appropriate the full 50 percent of the costs of operating and maintaining the New York State Barge Canal plus $5 million for rehabilitation as authorized in PL 99-662. The total amount is estimated to be $15 million.

JOINT STATEMENT

THE NEW JERSEY DEPARTMENT OF COMMERCE, ENERGY AND ECONOMIC DEVELOPMENT
MARITIME ADVISORY COUNCIL OF NEW JERSEY
THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
ON BEHALF OF APPROPRIATIONS IN FISCAL YEAR 1990
FOR FEDERAL NAVIGATION, FLOOD CONTROL, SHORE PROTECTION AND WATER SUPPLY PROJECTS IN NEW JERSEY
BEFORE THE SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
OF THE HOUSE AND SENATE COMMITTEES ON APPROPRIATIONS
U.S. SENATE
U.S. HOUSE OF REPRESENTATIVES
APRIL 12, 1989

REPRESENTING ALSO:

BURLINGTON COUNTY CHAMBER OF COMMERCE (NJ)
DELAWARE RIVER AND BAY AUTHORITY (DE, NJ, PA)
DELAWARE RIVER PORT AUTHORITY (NJ, PA)
GREATER CHERRY HILL CHAMBER OF COMMERCE (NJ)
HUDSON COUNTY CHAMBER OF COMMERCE (NJ)
INTERNATIONAL UNION OF OPERATING ENGINEERS
JOINT EXECUTIVE COMMITTEE FOR THE IMPROVEMENT OF THE DELAWARE (PA)
MARITIME ASSOCIATION OF THE PORT OF NEW YORK AND NEW JERSEY
MARINE TRADES ASSOCIATION OF NEW JERSEY
NATIONAL DREDGING ASSOCIATION, NEW JERSEY CHAPTER (NJ)
NEW JERSEY ALLIANCE FOR ACTION
NEW JERSEY MARINE SCIENCES CONSORTIUM
NEW JERSEY STATE CHAMBER OF COMMERCE
NEW YORK-NEW JERSEY PORT PROMOTION ASSOCIATION
PENJERDEL (PA, NJ, DE) COUNCIL
PHILADELPHIA MARITIME EXCHANGE (PA)
PILOTS ASSOCIATION FOR THE BAY AND RIVER DELAWARE
PORT AUTHORITY OF NEW YORK AND NEW JERSEY
PROJECT T.R.A.D.E. (TAKE A RESPONSIBLE APPROACH TO DREDGING AND THE ENVIRONMENT) (NJ)
P.R.O.T.E.C.T. (PASSAIC RIVER ORGANIZATIONS TO ENCOURAGE CONSTRUCTION OF THE TUNNEL) COMMITTEE (NJ)
SAVE OUR PORT COALITION (NY, NJ)
SOUTH JERSEY CHAMBER OF COMMERCE (NJ)
SOUTH JERSEY PORT CORPORATION (NJ)
UNITED NEW JERSEY SANDY HOOK PILOTS BENEVOLENT ASSOCIATION
UNITED NEW YORK SANDY HOOK PILOTS BENEVOLENT ASSOCIATION

Mr. Chairman and members of the Committee, it is our pleasure to appear before you today on appropriations of great importance to New Jersey and our residents.

I am Joseph T. Grossi, Executive Director of the New Jersey Department of Commerce, Energy and Economic Development's Maritime Advisory Council. I have been accompanied to Washington today by Bernard J. Moore, Assistant Director of the New Jersey Department of Environmental Protection, Division of Coastal Engineering. We are here to stress the importance of maritime commerce, shore protection, flood control and water supply projects on the quality of life for residents throughout our State and the region.

We're here today in Washington to voice our support for that which is presently included in the President's budget, however, we feel that additional funding for 11 projects is also warranted. These projects effect not only New Jersey, but our neighbors in Delaware, Pennsylvania, and New York. Our requests total an additional $5,460,000. A summary of our recommendations appears on the following two pages.

NAVIGATION

Americans throughout the country receive products shipped through New Jersey's ports. Port Elizabeth and Port Newark, which utilize the Kill Van Kull and Newark Bay Channels, are the largest container ports of their kind in the world and construction of this project will continue into FY90 with funds received in FY89. Our many other ports along the Atlantic Coast and Delaware River and Bay also serve vital functions of commerce and add to the overall quality of life in the region. We're here to solicit your help in making them both safer and more useful for those who depend on them for their livelihood. The budget recommendations of $475,000 for the Delaware River Comprehensive Navigation Study, $50,000 for the Delaware River at Camden, Beckett Street Terminal project, and $13,465,000 for the continued maintenance dredging of the Delaware River between Philadelphia/Camden to the sea are appreciated.

The Collection and Removal of Drift in the New York/New Jersey Harbor Region, a project underway for many years, but which had reached its appropriation "cap," has now been extended to allow for an annual authorization of up to $6 million. With the project now extended, we request your help in appropriating $1.9 million in FY90 for this project which has broad local support and matching funds available. This amount would be used to resurrect engineering and design work so that an expanded construction program can be implemented in FY91. Accidents resulting from collisions with drift result in annual repair costs in excess of $48 million.

We were pleased to see the Arthur Kill Channel Extension to Carteret project funded in FY89, but believed that it would have been designated a "Post-Authorization, non-costshared General Design Memorandum" effort and not a "cost-shared feasibility study." Although a Feasibility Study Cost-Share Agreement has not as yet been entered, we request that this project remain open as we continue to work, in cooperation with the project beneficiaries, toward fulfilling the cost-share criteria.

The Maritime Advisory Council would also like to ask this Committee to consider funding several navigational projects which have not been included in the budget. New Jersey is home to numerous commercial

fishing vessels which operate from small rivers and harbors that have benefited from channel improvement projects undertaken by the Corps of Engineers. Collectively, these channels play an important role in contributing to the fishing industry and economic vitality of our region.

Seven federal navigation projects in New Jersey require funds for maintenance dredging in Federal Fiscal 1990, but are presently unbudgeted. We are requesting that $2,710,000 be appropriated to dredge four projects - Keyport Harbor, Matawan Creek, Shoal Harbor and Compton Creek, and Shrewsbury River - and undertake the preparation of pre-maintenance dredging plans and specifications for the remaining three projects - Cheesequake Creek, Sandy Hook Bay, and Way Cake Creek.

We are also requesting $250,000 for the Great Egg Harbor and Peck Beach project. The reduced scope of this improvement consists of dredging with beachfill, and funds in FY90 will allow the engineering and design phase of this project to be completed.

The Council would also like to support the $600,000 appropriation for the New York Harbor and Adjacent Channels, Port Jersey Channel. This FY90 appropriation will provide the funds necessary to complete the pre-construction engineering and design phase of this project and advance this effort toward an early construction start.

Another component of the New York Harbor and Adjacent Channels is the Claremont Channel, presently a non-federal channel at an average depth of 27 feet, located just north of the Port Jersey Channel. A project to deepen Claremont Channel to 42 feet was authorized for construction by the Water Resources Development Act of 1986. The major users of the channel are two large scrap metal companies and an oil company. For the past 10 years, scrap metal experts have averaged more than 600,000 long tons per year, with receipt of petroleum products averaging greater than 2,100,000 barrels per year.

No funds are contained in the Fiscal Year 1990 budget for the Corps of Engineers to continue pre-construction work on this project. We wish to request that $300,000 be appropriated in FY90 to continue the engineering and design work for improvements to Claremont Channel.

Other projects, in the budget yet worthy of special mention, include $7 million for continued construction work to eliminate navigation hazards at Barnegat Inlet, $2,560,000 for the Cape May Inlet to Lower Township project, and $2,215,000 for operations and maintenance dredging of the New Jersey Intracoastal Waterway, through which 230,000 tons of freight and 1.1 million passages occur annually.

FLOOD CONTROL

Flooding is a particularly serious problem in New Jersey and it is most acute in the Passaic River Basin of northern New Jersey, an area which encompasses 935 square miles. We have made substantial progress in the planning studies of the Basin and would like to express our support for the FY90 budget request of $3.9 million to allow the Corps to continue the pre-construction, engineering and design phase work. This plan, when developed, will protect over 30,000 structures in a critical flood problem area which was declared a disaster area in 1968, 1971, 1973, twice in 1975, and more recently in 1984. A recurrence of a flood of record would cause damages of over $2 billion, not to mention the potential loss of life.

The Raritan River Basin in the central portion of our State is also hard hit by flooding, affecting over a million people, and we wish to support the $1.2 million in the FY90 budget request. The Raritan River Basin/Green Brook Sub-Basin was the project selected by the State for implementation under the "Water Resources Development Act of 1986." This project which, under the authorized plan, includes protection for the Upper Green Brook Sub-Basin, as well as the Lower Green Brook Sub-Basin, is the preferred improvement.

Several other shore protection/flood damage prevention projects around New Jersey truly merit their appropriations. They include $900,000 for Lower Saddle River engineering and design, and $600,000 for the continued study to determine the need for flood control improvements within the Hackensack River Basin.

The Atlantic Coast areas of New Jersey from Sandy Hook to Cape May Point have experienced a marked increase in pollution events which include algae blooms, dolphin kills, and high bacteria levels. These events contributed to business losses estimated at between $350 million and $1.4 billion during the summer of 1987, with recurring problems in the summer of 1988. Serious erosion has also occurred along the study area. We wish to support the FY90 budget request of $240,000 for the New Jersey Shore Protection Study to continue and complete the Reconnaissance Phase study and develop recommendations for the prevention of further water quality degradation and pollution of our coastal waters.

Erosion from storm damage at Sandy Hook to Barnegat Inlet has exposed coastal communities to the increased potential for damage to residential and commercial structures. The March 1962 storm resulted in $31 million in damages and today even less beachfront protects local communities which are now at an increased risk of coastal flooding. The FY90 budget amount of $5.6 million is needed to continue the construction contract for Section I and to proceed with engineering and design for Section II.

WATER SUPPLY

In the category of Water Supply, we wish to reiterate our support for the Francis E. Walter Dam and Prompton Lake, Pennsylvania projects and support the FY90 level of funding which will aid the four states of Delaware, New Jersey, New York, and Pennsylvania by providing increased flood water storage and contribute to the long range water supply capability of the entire region.

PLANNING ASSISTANCE

Finally, New Jersey wishes to continue its annual request for planning assistance funding to be utilized by the Corps of Engineers to perform engineering evaluations of water resource problems within our State. Funds requested for proposed studies total $300,000 and we appreciate the meaningful levels of funding provided in past years.

Mr. Chairman, we appreciate your past support, and we ask you to carefully consider the requests made for additional monies for FY90. These requests have been made after careful analysis with a special eye toward the most efficient use of both federal and State funds.

In closing, we wish to thank you for the opportunity to appear before this Subcommittee.

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SUMMARY OF NEW JERSEY CIVIL WORKS APPROPRIATIONS FISCAL YEAR 1990

PROJECT	FY90 BUDGET RECOMMENDATION	LOCAL INTEREST RECOMMENDATION	DIFFERENCE
NAVIGATION			
ABSECON INLET, NJ (O&M)	$ 20,000	$ 20,000	-0-
ARTHUR KILL EXTENSION TO CARTERET, NJ & NY (STUDY)	-0-	-0-	-0-
BARNEGAT INLET, NJ (CONSTRUCTION)	7,000,000	7,000,000	-0-
CAPE MAY INLET TO LOWER TOWNSHIP, NJ (CONSTRUCTION)	2,560,000	2,560,000	-0-
CHEESEQUAKE CREEK, NJ (O&M)	-0-	60,000	60,000
COLD SPRING INLET, NJ (O&M)	200,000	200,000	-0-
DELAWARE RIVER COMPREHENSIVE NAVIGATION STUDY (STUDY)	475,000	475,000	-0-
DELAWARE RIVER, PHILADELPHIA TO THE SEA, PA, NJ & DE (O&M)	13,465,000	13,465,000	-0-
DELAWARE RIVER, PHILADELPHIA TO TRENTON, NJ (O&M)	1,820,000	1,820,000	-0-
DELAWARE RIVER, VICINITY OF CAMDEN, NJ (PE&D)	50,000	50,000	-0-
GREAT EGG HARBOR & PECK BEACH, NJ (PE&D)	-0-	250,000	250,000
KEYPORT HARBOR, NJ (O&M)	-0-	600,000	600,000
KILL VAN KULL AND NEWARK BAY CHANNELS, NY & NJ (CONSTRUCTION)	-0-	-0-	-0-
MATAWAN CREEK, NJ (O&M)	-0-	250,000	250,000
NJ INTRACOASTAL WATERWAY, MIDDLE THOROFARE HARBOR, NJ (PE&D)	100,000	100,000	-0-
NJ INTRACOASTAL WATERWAY, NJ (O&M)	2,215,000	2,215,000	-0-
NJ INTRACOASTAL WATERWAY, OTTENS HARBOR, NJ (PE&D)	100,000	100,000	-0-
NY HARBOR AND ADJACENT CHANNELS, CLAREMONT CHANNEL, NJ (PE&D)	-0-	300,000	300,000
NY HARBOR AND ADJACENT CHANNELS, PORT JERSEY CHANNEL, NJ (PE&D)	600,000	600,000	-0-
NY HARBOR COLLECTION AND REMOVAL OF DRIFT, NY & NJ (CONSTRUCTION)	-0-	1,900,000	1,900,000
NEW YORK & NEW JERSEY CHANNELS, NY (O&M)	1,115,000	1,115,000	-0-
RARITAN RIVER, NJ (O&M)	1,540,000	1,540,000	-0-
SALEM RIVER, NJ (PE&D)	250,000	250,000	-0-
SANDY HOOK BAY, NJ (O&M)	-0-	50,000	50,000
SHOAL HARBOR & COMPTON CREEK, NJ (O&M)	-0-	600,000	600,000
SHREWSBURY RIVER, NJ (O&M)	-0-	1,100,000	1,100,000
WAY CAKE CREEK, NJ (O&M)	-0-	50,000	50,000
SUBTOTAL	$ 31,510,000	$ 36,670,000	$ 5,160,000

PROJECT	FY90 BUDGET RECOMMENDATION	LOCAL INTEREST RECOMMENDATION	DIFFERENCE
FLOOD CONTROL			
HACKENSACK RIVER BASIN, NJ & NY (STUDY)	600,000	600,000	-0-
LOWER SADDLE RIVER, NJ (PE&D)	900,000	900,000	-0-
MOLLY ANN'S BROOK, NJ (PE&D)	350,000	350,000	-0-
NEW JERSEY SHORE PROTECTION, NJ (STUDY)	240,000	240,000	-0-
PASSAIC RIVER EAST BANK STABILIZATION, NJ (STUDY)	150,000	150,000	-0-
PASSAIC RIVER MAINSTEM, NJ & NY (PE&D)	3,900,000	3,900,000	-0-
PASSAIC RIVER VICINITY OF BEATTIES DAM, NJ (STUDY)	200,000	200,000	-0-
RAMAPO AND MAHWAY RIVERS, MAHWAY, NJ & SUFFERN, NY (CONSTRUCTION)	330,000	330,000	-0-
RAMAPO RIVER AT OAKLAND, NJ (PE&D)	200,000	200,000	-0-
RARITAN RIVER BASIN, GREENBROOK SUB-BASIN, NJ (PE&D)	1,200,000	1,200,000	-0-
SANDY HOOK TO BARNEGAT INLET, NJ (CONSTRUCTION)	5,600,000	5,600,000	-0-
SUBTOTAL	$ 13,670,000	$ 13,670,000	-0-
WATER SUPPLY			
FRANCIS E. WALTER DAM, PA (CONSTRUCTION, MODIFICATION)	4,100,000	4,100,000	-0-
FRANCIS E. WALTER DAM, PA (O&M)	588,000	588,000	-0-
PROMPTON LAKE, PA (O&M)	335,000	335,000	-0-
SUBTOTAL	$ 5,023,000	$ 5,023,000	-0-
PLANNING ASSISTANCE			
SECTION 22, PLANNING PROGRAM (STUDY)	$ -0-	$ 300,000	$ 300,000
SUBTOTAL	$ -0-	$ 300,000	$ 300,000
TOTAL	$ 50,203,000	$ 55,663,000	$ 5,460,000

LETTER FROM JOHN L. BUZZI, CHAIRMAN, MARITIME ADVISORY COUNCIL OF NEW JERSEY

April, 1989

Dear Members of the United States Congress:

New Jersey, a maritime state, relies heavily on maritime commerce and activity to maintain it's healthy economy. New Jersey's waterways yield more than a quarter billion tons of cargo a year, producing more than a billion dollars in customs revenue.

In addition to our ports, our inland waterways and rivers are equally important for our commerce and recreation. However, one of the results of our growth is the increasing problem of flooding. Adequate water supply is another issue that we must face.

The New Jersey Civil Works Appropriations for Fiscal Year 1990 addresses these issues. The Maritime Advisory Council of New Jersey supports these important projects and has given careful review to other capital efforts in navigation, flood control and water supply.

We ask that you carefully consider our requests for additional funding in FY'90. New Jersey is moving ahead with new responsibilities and planning partnership with the federal government as outlined in the Water Resources Development Act of 1986. This summary will hopefully provide both the House and Senate Appropriations Committees with a clearer understanding about our state's unique needs.

Sincerely,

JOHN L. BUZZI

John L. Buzzi, Ph.D., P.E.
Chairman
Maritime Advisory Council
of New Jersey

ABSECON INLET, NEW JERSEY
(OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$20,000**
Local Interest Recommendation	**$20,000**

Project Description

The project provides for an inlet entrance channel 20 feet deep at mean low water and 400 feet wide; an entrance channel 15 feet deep and 200 feet wide from the inlet channel into Clam Creek; and a turning basin 15 feet deep within Clam Creek as approved by HD 375, 67th Cong., and HD 504, 79th Cong. The total length of the section included in the project is approximately 1-1/2 miles.

This inlet provides an important economic contribution to the commercial and recreational fishing and boating industry within our metropolitan region.

Local Interest Recommendation

We are pleased to see this project included in this years budget request and wish to express our support for a Fiscal Year 1990 appropriation of $20,000 for this inlet entrance channel project.

ARTHUR KILL CHANNEL EXTENSION TO CARTERET
NEW JERSEY AND NEW YORK
(STUDY)

FY'90 Budget Request	**$ - 0 -**
Local Interest recommendation	**$ - 0 -**

Project Description

This study will focus on the portion of the Arthur Kill from Howland Hook, New York, south to Carteret, New Jersey. The 35-foot deep existing federal project does not allow the full loading of liquid and dry bulk cargo ships destined for shoreside facilities. This situation requires that large ocean-going vessels either light load (not fully utilizing ship capacity at a substantial loss of economy), or perform expensive off-shore lightering operations in deeper waters outside this channel. Deeper channels would streamline operations and realize considerable transportation cost savings.

Six deep-draft bulk facilities along the Arthur Kill extension annually handle in excess of 15 million tons of cargo. Petroleum, petrochemicals, speciality chemicals, sulphur and cement are carried to these terminals . Large, modern vessels would immediately benefit form substantial savings and safer navigation if the existing channel were deeper.

Local Interest Recommendation

Although we were pleased to see this project funded in FY'89, it was our belief that the project would have been designated a "post authorization, non-cost shared, General Design Memorandum" effort and not a "cost-shared feasibility study." While we wish

to support this project, this approach appears to counter the congressional intent of the Water Resources Development Act of 1986, which directly authorizes this project for construction.

A comparison of this shorter and narrower project with the preceding Howland Hook construction increment leaves no doubt that this project is justified. The already heavily industrialized Arthur Kill Extension handles more tonnage than the preceding reach. Therefore, it is obvious that the Arthur Kill Extension benefit-to-cost ratio must be at least equal to or greater that the 4 to 1 ration of the preceding reach.

The need to enter into a Feasibility Study Cost Share Agreement for this project in fiscal year 1989 was not anticipated. We request that this project remain open as we continue to work in cooperation with the project beneficiaries toward implementing a program to fulfill the cost-sharing criteria.

BARNEGAT INLET, NEW JERSEY (CONSTRUCTION)

FY'90 Budget Request	$7,000,000
Local Interest Recommendation	$7,000,000

Project Description

Channel shoaling, wave activity and numerous marine hazards have created dangerous navigational problems at the Barnegat Inlet, New Jersey in Ocean County, New Jersey. These are serious shortcomings that impose limitations on the effectiveness of safe access through an inlet with over 800,000 annual transits.

Since completion of the existing federal project in 1940, approximately $8 million has been appropriated in an attempt to stabilize conditions. This has resulted in only short-term maintenance improvements. Continuation of construction is necessary to modify the existing federal navigation project, realign the south jetty and provide a wider and deeper navigation channel.

Presently, the only approach to the inlet is from the north along the area of Island Beach. Due to shoaling, breakers occur across the entire outer bar, exposing all vessels to possible impact by severe waves as they enter the inlet entrance. Vessels are also in constant jeopardy of being capsized or pushed across the north jetty because of the current navigating conditions.

Local Interest Recommendation

The modification and construction of a new jetty and improved navigation channel is necessary to correct channel shoaling, wave activity and dangerous hazards which have been responsible for the loss of 11 lives at the inlet over the last six-year period.

This improvement plan will reduce navigation hazards and provide all mariners with safe access through the inlet. As designed, the project will reduce shoaling and maintenance dredging costs over the long term. This project represents a sound, cost-effective investment for safer marine navigation in the area.

We support the Fiscal Year 1990 Budget Request of $7,000,000 to continue the construction work of this improvement plan. The State of New Jersey has in escrow the necessary funds to cost-share this anticipated appropriation.

CAPE MAY INLET TO LOWER TOWNSHIP, NEW JERSEY (CONSTRUCTION)

FY'90 Budget Request	**$2,560,000**
Local Interest Recommendation	**$2,560,000**

Project Description

The Cape May Inlet project was authorized for construction by the Water Resources Development Act of 1986. The recommended project consists of a beachwater weir at Cape May Inlet with construction of two new groins, beach fill, and maintenance of the two new and seven existing groins. Beach nourishment material would be obtained periodically from a deposition basin located on the northeast side of the inlet and a shoreline monitoring program for Lower Township.

The project is important to the shoreline, both in and below Cape May. Cape May has suffered severe erosion since the construction of the Cape May Inlet jetties in 1911. This has been to the detriment of the recreation industry, boating and fishing and is responsible for repetitive storm-related damages.

Local Interest Recommendation

The Corps of Engineers completed the Phase II Advance Engineering & Design studies for this project in July, 1983 and recommended a project to restore the damage caused to the Cape May navigation jetties. They recommended that this work be done and we support the FY'90 budget recommendation of $2,560,000 which will be used to continue the construction phase of this project which is being cost-shared with available state funds.

CHEESEQUAKE CREEK, NEW JERSEY (OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$ - 0 -**
Local Interest Recommendation	**$60,000**

Project Description

This project includes 3 channels with varying depths from 3 feet to 5 feet, two parallel stone jetties and pile dikes to protect the channel.

The project is about 45% complete. The last work done in carrying out the project was in 1884. Maintenance dredging has been done several times since then. The unfinished parts of the project are dredging a channel 4 ft. deep and 50 to 100 ft. wide between the railroad bridge and the head of navigation, including the construction of three dikes, and dredging in Stump Creek.

Interest Recommendation

This is one of seven Federal navigation projects in New Jersey that require funds for maintenance dredging in Fiscal Year 1990 but are presently unbudgeted. We are requesting that $60,000 be appropriated for this small but nevertheless important commercial fishing channel.

COLD SPRING INLET, NEW JERSEY
(OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$200,000**
Local Interest Recommendation	**$200,000**

Project Description

This existing channel project, adopted in 1907 and modified in 1945, provides for an entrance channel 25 feet deep and 400 feet wide, protected by two parallel stone jetties. The total length of the section included in the project is about 2 1/4 miles.

Local Interest Recommendation

We are pleased to see this project included in this years budget request and wish to express our support for a Fiscal Year 1990 appropriation of $200,000 for this Operations & Maintenance inlet channel project.

DELAWARE RIVER COMPREHENSIVE NAVIGATION STUDY
NEW JERSEY, PENNSYLVANIA, AND DELAWARE
(STUDY)

FY'90, Budget Request	**$475,000**
Local Interest Recommendation	**$475,000**

Project Description

The Delaware River Navigation System includes six deep-draft navigation projects serving the Ports of Philadelphia, Pennsylvania; Camden, New Jersey; Trenton, New Jersey and Willmington, Delaware. These ports collectively transport more than 114 million tons of cargo annually, support nearly 100,000 jobs and provide a much needed economic stimulus to the entire region. This system also serves naval vessels at the Philadelphia Naval Base.

The representatives of port facilities utilizing the Delaware River cite the need for deeper channels and improved navigation movements. An average of nine million tons of cargo are lightered into barges due to the restrictive 40-foot channel depths.

Local Interest Recommendation

We wish to support the FY'90 Budget Recommendation of $475,000 to continue the Delaware River Comprehensive Navigation Study and Advance the Studies to deepen both the Maurice River and Salem River in New Jersey, as well as to investigate other improvements throughout the entire study area (Sponsor interest now also includes a main Delaware channel deepening to 45 feet). A draft report is expected to be completed by March 1992.

DELAWARE RIVER, PHILADELPHIA TO THE SEA, PA, NJ & DE (OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$13,465,000**
Local Interest Recommendation	**$13,465,000**

Project Description

The existing project was authorized in 1910 and modified in 1930, 1938, 1945, and 1954. The project provides for a 96.5 mile channel from Allegheny Avenue, Philadelphia, to deep water in Delaware Bay, for six anchorages, and for construction of dikes and training works for the regulation and control of tidal flow. Project dimensions vary from 37'-40' deep, and 800'-1000' wide.

Local Interest Recommendation

The FY'90 budget figure provides for continued maintenance dredging between Philadelphia to the Sea. A dredging contract which started in April 1988, is scheduled for completion this month at a cost of approximately $4,804,000. This contract resulted in dredging of New Castle, Marcus Hook and Bellevue-Cherry Island Ranges. A contract for continued maintenance dredging is scheduled for award this month, with completion scheduled for December 1989. A contract to dredge spot shoals between Philadelphia Harbor and Liston Range is scheduled for award in May 1989. The Dredge McFarland is scheduled to perform maintenance dredging during July 1989.

We wish to express our appreciation and support for the Fiscal Year 1990 budget request of $13,465,000 for the continued Operations & Maintenance of this important navigation channel project. Three states benefit from this project which provides access to their regional port complex.

DELAWARE RIVER, PHILADELPHIA, PA TO TRENTON, NJ (OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$1,820,000**
Local Interest Recommendation	**$1,820,000**

Project Description

Adopted in 1930 and modified in 1935, 1937, 1946, and 1954, this project provides for a channel and turning basins in the Delaware River, bank protection and bridge reconstruction. The project dimensions vary from 35'-40' deep, and 300'-400' wide. The project has been completed except for deepening the channel from 25 to 35 feet between Newbold Island and the Trenton Marine Terminal which has been placed in the deferred category. Local interests (City of Trenton) have not provided, as required, terminal facilities adequate for a 35-foot channel.

Local Interest Recommendation

A contract for dredging in the 40-foot channel, which started in June 1988, is scheduled for completion this month at a cost of $5,283,600.

We wish to express our support for the Fiscal Year 1990 budget request of $1,820,000 which will provide funds needed to initiate a continuing contract for dredging this project.

DELAWARE RIVER, VICINITY OF CAMDEN, NJ (BECKETT STREET TERMINAL) (PRECONSTRUCTION ENGINEERING & DESIGN)

FY'90, Budget Request	**$50,000**
Local Interest Recommendation	**$50,000**

Project Description

The Beckett Street Terminal is located in Camden, New Jersey on the east bank of the Delaware River, opposite the City of Philadelphia. The Beckett Street Terminal's authorized depth ranges from 18 to 37 feet. At present, there is inadequate depth to allow safe transit of the deep-draft vessels that ship dry bulk cargo to the Beckett Street Terminal. As a result of these inadequate depths, costly alternatives such as lightering and light loading are utilized. There is also dependence on high tides as well to handle the shipping load. With dry bulk and general cargo fleet vessels ever increasing in size, this problem is expected to worsen.

After the situation was studied, the Corps' recommended improvement allows for deepening the channel from 37 to 40 feet in order to permit efficient transit of deep-draft vessels. The plan of improvement includes dredging a trapezoidal approach channel to a depth 40 feet, with a width of 1,100 feet and lengths of 4,400 and 1,450 feet along the Camden waterfront. Funds allocated would initiate preconstruction engineering and design which would include hydrographic surveys, economic, environmental, and social impact studies and the initiation of detailed design calculation.

Local Interest Recommendation

Annually, 1.1 million tons of bulk cargo, including coal, scrap, metal, lumber gypsum, iron ore and titanium slag are handled at the Beckett Street Terminal, a facility of the South Jersey Port Corporation.

The investment in this area is particularly important as the City of Camden, one of the most economically depressed urban areas of our country, could receive an additional economic boost through millions of dollars in related revenues and hundreds of full-time jobs.

We wish to express our support for the Fiscal Year 1990 Budget Request of $50,000 for that portion of the preconstruction engineering and design phase of this project and are pleased that it is scheduled for completion in March, 1990

GREAT EGG HARBOR INLET & PECK BEACH, NEW JERSEY (PRECONSTRUCTION ENGINEERING & DESIGN)

FY'90, Budget Request	**$ - 0 -**
Local Interest Recommendation	**$250,000**

Project Description

This multiple purpose navigation and shoreline erosion control project provides for the modification of the existing beach erosion project at Ocean City, New Jersey. In addition to providing an inlet navigation channel 300 feet wide by 12 feet deep below mean low water (MLW), the project will also include a 100-foot wide by six feet deep approach to the New Jersey Intracoastal Waterway, placement of beachfill, periodic nourishment of the beaches and work for jetty and bulkhead fishing.

Local Interest Recommendation

In 1982 and 1983, the State of New Jersey indicated renewed interest in a scaled down version of the original project, based upon the findings of the New Jersey Shore Protection Master Plan. A new source of funds also resulted from a bond issue referendum passed by New Jersey voters in 1983. In 1986, New Jersey reiterated its intent to provide the necessary items of local cooperation, and is also prepared to fund the non-federal total project cost.

In September, 1987 the Corps of Engineers completed a reevaluation study for this project and recommended a reduced scope project consisting of dredging beachfill and periodic nourishment.

We, therefore, wish to request that this project be appropriated in the amount of $250,000 for FY'90 so that the preconstruction engineering and design phase of this project can be completed.

KEYPORT HARBOR, NEW JERSEY (OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$ - 0 -**
Local Interest Recommendation	**$600,000**

Project Description

This project provides for a channel 8 feet deep at mean low water and 200 feet wide from Raritan Bay to the former steamboat dock at Keyport. The project channel length is approximately 1 mile long. This channel not only provides access to the open sea for numerous commercial fishing vessels which collectively provide on important contribution to the fishing industry, but also brings economic vitality to this region as part of a commuter ferry service network to metropolitan business areas.

Local Interest Recommendation

This is one of seven Federal navigation projects in New Jersey that require funds for maintenance dredging in FY '90 but are presently not budgeted for. We request that $600,000 be appropriated for this dual purpose fishing and waterborne transportation channel.

KILL VAN KULL AND NEWARK BAY CHANNEL, NEW YORK AND NEW JERSEY (CONSTRUCTION)

FY'90 Budget Request	**$ - 0 -**
Local Interest Recommendation	**$ - 0 -**

Project Description

This navigation project as authorized will deepen the existing 35-foot channels in the Kill Van Kull and Newark Bay to 40 feet below mean low water (MLW). The project serves Port Newark and Port Elizabeth marine terminals with several widenings and a turning basin. The work covers Staten Island, New York; and Jersey City, Bayonne, Elizabeth, and Newark, New Jersey.

The Port Authority of New York and New Jersey, the local cooperating agency for this project, wishes to take construction in stages, with the first phase going to 40 feet. This project will immeasurably benefit Port Newark and Port Elizabeth, which together comprise the nation's largest container port.

The present 35-foot channels in the Kill Van Kull and Newark Bay preclude modern ocean voyage container ships from fully loading. Substantially increased shipping costs, if allowed to continue, will discourage fleets with larger draft vessels from utilizing these facilities.

Local Interest Recommendation

The Kill Van Kull and Newark Bay Channels, NY & NJ harbor deepening project was authorized for construction in the Fiscal Year 1985 Supplemental Appropriations Act (Public Law 99-88) and The Water Resources Development Act of 1986 (Public Law 99-662). The Port Authority is providing local cooperation and the $51 million non-Federal cost for this project.

With the deepening of the channels from 35 feet to 40 feet more than half complete, the Corps of Engineers is now entering a critical phase of construction consisting largely of rock removal through blasting. Unforeseen but not insurmountable problems concerning vessel movements and safety through this busiest channel in our port have compelled the Corps to proceed slowly and cautiously. This has resulted in a slower than anticipated expenditure of appropriated funds this fiscal year requiring significant carryover of these funds into Fiscal Year 1990. We, therefore, support the zero budget recommendation for this project in Fiscal Year 1990 as prudent use of Federal funds. We look forward to your appropriating the necessary funds in Fiscal Year 1991 to achieve project completion.

MATAWAN CREEK, NEW JERSEY
(OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$ - 0 -**
Local Interest Recommendation	**$250,000**

Project Description

A channel, 4 feet deep, 10 feet wide, from Keyport Harbor to Winkson Creek; thence 4 feet deep, 75 feet wide to the New York and Long Branch Railroad Bridge at Matawan, New Jersey.

The project is about 64% complete. The work remaining to be done consists of widening of the channel from the mouth to the town dock at Matawan, and construction of a channel of project dimensions to the New York and Long Branch railroad Bridge.

Local Interest Recommendation

This is one of seven Federal navigation projects in New Jersey that require funds for maintenance dredging in Fiscal Year 1990 but are presently unbudgeted. We are requesting that $250,000 be appropriated for this relatively small but nevertheless important commercial fishing channel.

NEW JERSEY INTRACOASTAL WATERWAY (NJIWW),
MIDDLE THOROFARE HARBOR, NEW JERSEY
(PRECONSTRUCTION ENGINEERING & DESIGN)

FY'90 Budget Request	**$100,000**
Local Interest Recommendation	**$100,000**

Project Description

Presently, the New Jersey Intracoastal Waterway (NJIWW) is maintained at a depth of six feet. This depth was determined by the State of New Jersey prior to the Federal project authorization in 1945. New Jersey's portion of the channel, which extends 117 miles along the coast of New Jersey from Manasquan Inlet to the Delaware Bay, is easily the most restrictive link in this inland waterway between New England and Florida.

The Federal project has authorized a 12-foot depth and 1,100 feet width from the Atlantic Ocean through Manasquan Inlet and River, the Point Pleasant Canal, the Intracoastal Waterway, and Cape May Harbor to Delaware Bay Canal.

The NJIWW handles 230,000 tons of freight, and 1,100,000 passages annually through numerous inlets and an expanding commercial fishing fleet is experiencing increased difficulties navigating its inadequate depth and widths.

Local Interest Recommendation

We wish to support the budget request of $100,000 for Fiscal Year 1990, which will be used for the preconstruction engineering and design phase of this project. The State of New Jersey concurs with the findings of the feasibility study and is willing to provide the requisite cost-share.

NEW JERSEY INTRACOASTAL WATERWAY (NJIWW), NEW JERSEY (OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$2,215,000**
Local Interest Recommendation	**$2,215,000**

Project Description

This project was adopted by the R & H Act approved March 2, 1945. This waterway, a sea-level inland water route approximately parallel with the New Jersey Coast, extends from the Atlantic Ocean at Manasquan Inlet, about 26 miles south of Sandy Hook, New Jersey to the Delaware River about 3 miles north of Cape May Point. The waterway extends through the inlet and up Manasquan River a distance of about 2 miles and thence through Point Pleasant Canal about 2 miles to the head of Barnegat Bay. It then passes through a series of bays, lagoons and thoroughfares along the New Jersey coast to Cape May Harbor, and thence across Cape May County to Delaware Bay (Cape May Canal).

A final Environmental Impact Statement was submitted on September 12, 1975. Maintenance dredging is performed under government contract by hydraulic dredging and disposed in open water areas and on diked upland sites. Disposal areas are furnished by the State of New Jersey.

Local Interest Recommendation

We wish to express our support for the fiscal year 1990 budget request of $2,215,000 which will provide funds needed to maintain this navigation channel project.

NEW JERSEY INTRACOASTAL WATERWAY (NJIWW), OTTENS HARBOR, NEW JERSEY (PRECONSTRUCTION ENGINEERING & DESIGN)

FY'90 Budget Request	**$100,000**
Local Interest Recommendation	**$100,000**

Project Description

Presently, the New Jersey Intracoastal Waterway (NJIWW) is maintained at a depth of six feet. This depth was determined by the State of New Jersey prior to the Federal project authorization in 1945. New Jersey's portion of the channel,

extends 117 miles along the coast of New Jersey from Manasquan Inlet to the Delaware Bay. The study area includes a portion of the waterway in the vicinity of Ottens Harbor, Cape May, New Jersey. It is located near the southern end of this waterway approximately 35 miles southwest of Atlantic City, New Jersey.

The authorized project provides for a channel depth of 12 feet. These waters have become increasingly more difficult to navigate each year due to inadequate depths and widths, and expanding commercial fleet activity.

Local Interest Recommendation

The tentative plan includes the modification of the Waterway to establish a Federal channel of 14-foot depth, 160-foot width and 22,000-foot length from the Cape May Harbor Inlet to Ottens Harbor and a 14-foot depth and 80-foot width at Ottens Harbor. The feasibility study has been initiated and is scheduled for completion in December 1989. The State of New Jersey, the local sponsor, is cost sharing the Feasibility Study and will cost share potential construction, as required by P.L. 99-662.

We wish to support the budget request of $100,000 for Fiscal Year 1990, which will be used for the preconstruction engineering and design phase of this project.

NY HARBOR & ADJACENT CHANNELS
CLAREMONT CHANNEL, NEW JERSEY
(PRECONSTRUCTION ENGINEERING & DESIGN)

FY'90 Budget Request	**$ - 0 -**
Local Interest Recommendation	**$300,000**

Project Description

Claremont Terminal Channel is located in Jersey City, Hudson County, New Jersey. It is a dead-end channel, about 2 miles long, extending into Upper New York Bay. The study area is within the Port of New York and New Jersey, the leading port on the Atlantic Coast.

Claremont Channel is presently a non-Federal Channel at an average depth of 27 feet mean low water located just north of the Port Jersey Channel. A project to deepen Claremont Channel to 42 feet mean low water was authorized for construction subject to a favorable report by the Secretary of the Army in the Water Resources Development Act of 1986 (P.L. 99-662). The major users of the channel are two large scrap metal companies and an oil company. For the past 10 years, scrap metal exports have averaged more than 600,000 long tons per year with receipt of petroleum products averaging greater than 2,100,000 barrels per year.

The two scrap metal firms alone employ nearly 250 persons directly and nearly 3,000 persons indirectly through small scrap metal suppliers and longshoremen.

Local Interest Recommendation

Local interests desire a deeper channel to better accommodate vessels used to export scrap metals. Deepening will increase

transportation efficiency by reducing the costs of topping off vessels and waiting for favorable tides. Local interests also believe that greater channel depths will increase safety by permitting vessels to operate with more desirable clearances.

As no funds are contained in the Fiscal Year 1990 budget for the Corps of Engineers to continue preconstruction work in this project, we, therefore, request $300,000 to be appropriated in Fiscal Year 1990 for preconstruction engineering and design work for improvements to Claremont Channel.

NY HARBOR & ADJACENT CHANNELS
PORT JERSEY CHANNEL, NEW JERSEY
(PRECONSTRUCTION ENGINEERING & DESIGN)

FY'90 BUDGET REQUEST	**$600,000**
LOCAL INTEREST RECOMMENDATION	**$600,000**

Project Description

This project will deepen a 35-foot access channel (non-federal) to a 41 foot channel (federal) providing safe and economical use of this waterway at all stages of tide. The Port Jersey Access Channel presently serves the Global Marine Container Terminal, which in turn serves 13 shipping lines. In 1988, this facility handled 296 vessel arrivals with 231,000 container units (each unit measures 20 feet). Of the arriving vessels, 75% had design drafts too deep for the channel with a third actually loaded to drafts necessitating delays awaiting high tide. Over four hundred terminal employees with an annual payroll of over $20 million, as well as another 107 contract workers, depend upon this facility for their livelihood. As a privately-owned terminal, Global also pays in excess of $1.5 million in local real estate taxes annually.

Also served by this channel is the U.S. Army Military Ocean Terminal facility and a parcel of land upon which the owner and local cooperating agency, the Port Authority of New York & New Jersey, has commenced work to develop a marine terminal.

Local Interest Recommendation

The future of this facility is critically dependent upon a channel of at least 40 feet deep so that it may remain competitive with other container terminals served by waterways of this and greater depths.

As this improvement has received a favorable report by the Secretary of the Army and the Chief of Engineers, we wish to continue our support for the budget request of $600,000 for this project in Fiscal Year 1990 to complete the preconstruction engineering and design phase. This appropriation will advance the project toward an early construction start.

NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT, NEW YORK AND NEW JERSEY (CONSTRUCTION)

FY'90 Budget Request	**$ - 0 -**
Local Interest Recommendation	**$1,900,000**

Project Description

This project calls for the collection and removal of more than 29 million cubic feet of drift from derelict vessels and non-repairable piers and waterfront structures. It covers all of the Port of New York and New Jersey, including shores and tidal tributaries of Sandy Hook, Raritan Bay, Authur Kill, Kill Van Kull, Lower New York Bay, Lower Hudson River, Harlem River, East River, Jamaica Bay and the Western Port of Long Island Sound. The project encompasses seven New Jersey and seven New York counties. Four hundred and sixty miles of shoreline in New York and 295 miles of shoreline in New Jersey will be affected.

This project is aimed at the removal of approximately 2,230 sunken hulks and 149 decaying shore structures that are the sources of dangerous, unsightly and costly harbor drift. The Corps of Engineers has estimated that nearly 18,000 commercial, public and recreation vessels collide annually with drift in our port causing damage to propellers, shafts and hulls. In addition, annual associated repair costs and other economic losses average greater than $48 million.

Local Interest Recommendation

We are disappointed that the proposed budget for Federal Fiscal 1990 contains no funds for this project. We urgently request your assistance in appropriating funds for this project which enjoys widespread local support; is extremely beneficial towards improving vessel navigation safety and revitalizing the region.

Due to project spending limitations which were lifted, last year the Corps was not permitted to conduct adequate engineering and design work that would evolve into construction. Thus, our request for $1,900,000 is a modest one, compared to the large amount of construction work that remains to be completed. Specifically, these funds would be used primarily to resurrect engineering and design work along the Brooklyn, Bayonne, Staten Island (Arthur Kill) and Jersey City waterfronts so that an expanded construction program can be implemented in Federal Fiscal 1991. We believe this amount will serve to lay the groundwork for a more comprehensive program in the coming fiscal years To appropriate nothing will delay project completion for years. Therefore, we strongly urge that $1,900,000 be appropriated for the New York Harbor Collection and Removal of Drift Project in Fiscal Year 1990.

NEW YORK AND NEW JERSEY CHANNELS (OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$1,115,000**
Local Interest Recommendation	**$1,115,000**

Project Description

This project includes a channel 37 feet deep, in rock and 35 feet deep in soft material, 600 feet wide through Lower New York Bay, Raritan Bay and Arthur Kill to the junction of the channel into Newark Bay. The existing Kill Van Kull Channel is authorized for deepening to 45 feet from the vicinity of Shooter Island and junction with Newark Bay through the Kill Van Kull to Constable Hook, then to a point near the intersection along the New Jersey Pierhead line through Kill Van Kull to Upper New York Bay. The length of the project is about 31.0 miles.

A local cooperation agreement was signed on May 30, 1986 with the Port Authority of New York and New Jersey for the Kill Van Kull, Newark Bay deepening project.

Local Interest Recommendation

We wish to express our support for the fiscal year 1990 budget request of $1,115,000 which will provide funds needed to dredge and maintain this Federal Navigation Channel.

RARITAN RIVER, NEW JERSEY (OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$1,540,000**
Local Interest Recommendation	**$1,540,000**

Project Description

This project includes a main channel, 25 ft. deep by 300 ft. wide, from the turn in N.Y. and N.J. Channels, near Great Beds Light to the Raritan Arsenal Wharf, a turning basin opposite Raritan Arsenal Wharf, and a south channel 25 ft. deep, 300 ft. wide, from its junction with the main channel opposite Keasby to the junction with the Main Channel at Crab Island.

Local Interest Recommendation

The project is about 96% complete. The work remaining to be done is the dredging of the South Channel to a depth of 10 ft. and 150 ft. wide for a length of 1,300 ft. to the upper junction with the main channel at Crab Island.

We are pleased to see this project included in this years budget request and wish to express our support for a Fiscal Year 1990 appropriation of $1,540,000 for the Operations and Maintenance of this channel.

SALEM RIVER, NEW JERSEY
(PRECONSTRUCTION ENGINEERING & DESIGN)

FY'90 Budget Request	**$250,000**
Local Interest Recommendation	**$250,000**

Project Description

This project is a tributary of the Delaware River located in Salem County, New Jersey. The public coordination of the Feasibility Report will occur throughout Fiscal Year 1989. Fiscal year 1990 funds will be used to initiate the preconstruction engineering and design phase.

The draft Environmental Assessment found no significant impact, and a Section 401 water quality certificate will be obtained from the New Jersey Department of Environmental Protection prior to construction.

Local Interest Recommendation

We wish to support the budget recommendation of $250,000 in FY'90 which will start the preconstruction engineering and design phase of this project for a deeper Federal channel (from 12 to 18 feet) and turning basin to support expanded commercial navigation.

The sponsor of this project is the City of Salem Municipal Port Authority.

SANDY HOOK BAY, NEW JERSEY
(OPERATIONS & MAINTENANCE)

FY'90 Budget Recommendation	**$ - 0 -**
Local Interest Recommendation	**$50,000**

Project Description

The construction of a continuous, (4,000 ft.) rubble-mound breakwater extending eastward from the former New Jersey Steamboat Co. dock at Atlantic Highlands, New Jersey. Dredging of the area in the lee of the breakwater, and seaward of the pierhead line, to a depth of 8 ft.

Local Interest Recommendation

This is one of seven Federal Navigation projects in New Jersey that require funds for maintenance dredging in Fiscal Year 1990 but are presently not budgeted for. We wish to request that $50,000 be appropriated in FY'90 for this small but vital commercial fishing project.

SHOAL HARBOR & COMPTON CREEK, NEW JERSEY
(OPERATIONS & MAINTENANCE)

FY'90 Budget Recommendation	**$ - 0 -**
Local Interest Recommendation	**$600,000**

Project Description

This channel, which is authorized to a depth of a 12 ft. at mean low water, extends from Sandy Hook Bay to the first bend in Compton Creek. The length of the project is approximately 2 miles.

Local Interest Recommendation

The project is about 78% complete. The work remaining to be done consists of extending the 8 ft. channel 1,000 ft. upstream from the Main Street Bridge.

This is one of seven Federal Navigation projects in New Jersey that require funds for maintenance dredging in Fiscal Year 1990 but are presently unbudgeted. We wish to request that $600,000 be appropriated in FY'90 for this important channel project which benefits an economically significant commercial fishing fleet.

SHREWSBURY RIVER, NEW JERSEY
(OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$ - 0 -**
Local Interest Recommendation	**$1,100,000**

Project Description

This project includes 6 channels with varying depths from left to 12 feet, and a turning basin in the vicinity of Red Bank.

The project is about 30% complete. The work remaining to be done consists of dredging the turning basin and anchorage in the vicinity of Red Bank, and the channels in Claypit, Oceanport and Little Silver Creek as authorized by the River and Harbor Act of May 17, 1950. Dredging an inlet channel across the base of Sandy Hook protected by jetties and bulkheads, a bay channel extending to the existing Shrewsbury River Channel and a sixlane fixed highway bridge to span the new inlet as authorized by the River and Harbor Act of October 27, 1965.

Local Interest Recommendation

This is one of seven Federal Navigation projects in New Jersey that require funds for maintenance dredging in Fiscal Year 1990 but are presently unbudgeted. We wish to request that $1,100,000 be appropriated in FY'90 for this important commercial fishing channel project.

WAY CAKE CREEK, NEW JERSEY
(OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$ - 0 -**
Local Interest Recommendation	**$50,000**

Project Description

The authorized depth of this channel is 4 ft. deep at mean low water and 100 ft. wide from the 8 ft. contour in Raritan Bay to the mouth of Way Cake Creek. The project length is about 1 mile.

Local Interest Recommendation

This is one of seven Federal Navigation projects in New Jersey that require funds for maintenance dredging in Fiscal Year 1990 but are presently unbudgeted. We wish to request that $50,000 be appropriated in FY'90 for this small but nevertheless important commercial fishing project.

FLOOD CONTROL

HACKENSACK RIVER BASIN, NEW JERSEY AND NEW YORK
(STUDY)

FY'90 Budget Request	**$600,000**
Local Interest Recommendation	**$600,000**

Project Description

This study will determine the need for flood control improvements in the Hackensack River Basin, including the Meadowlands region. The Hackensack River and its tributaries are located primarily in Bergen and Hudson Counties, New Jersey and in Rockland County, New York. All three counties were declared disaster areas in 1971 and 1975. Additionally, Rockland County was declared a disaster area in 1972. It is estimated that over $440,000,000 in damage would result from a 100-year flood.

Local Interest Recommendation

The $600,000 to continue the study of the Hackensack River Basin flood control feasibility is one item which we support. However, we would like to point out that New Jersey views this particular survey as an ongoing priority, having been initiated prior to the passage of the Water Resources Development Act of 1986. This project should not require cost-sharing for the feasibility study and should be funded again in Fiscal Year 1990 to continue the feasibility study.

LOWER SADDLE RIVER, NEW JERSEY
(PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'90 Budget Request	**$900,000**
Local Interest Recommendation	**$900,000**

Project Description

Major flooding of the Saddle River in recent years has plagued the communities of Garfield, Wallington, South Hackensack, Lodi, Saddle Brook, Rochelle Park and Fair Lawn, New Jersey. The Lower Saddle River study area, located in Bergen County, affects over 2,500 recreational, commercial, and industrial establishments.

In an effort to provide protection against flooding in these communities, the proposed improvements for the Lower Saddle River consists of 5.2 miles of channel modification along the Saddle River, 1.7 miles of channel modification along Sprout Brook, the straightening of a meander near the mouth of the Saddle River and modifications to 22 bridges on both streams. These project improvements would provide protection against a 150-year flood event to the affected area. The recommendations for flood control of Saddle River would eliminate over $6,000,000 of flood damage to the area annually.

This preconstruction engineering and design effort was authorized by the Water Resources Development Act of 1986. Local interest cost sharing requirements will be provided for land easements, rights-of-way and relocations.

Local Interest Recommendation

We wish to express support for the Fiscal Year 1990 Budget Request of $900,000 which will be used to continue the preconstruction engineering and design phase. Included in the PE&D is the completion of topographic data collection and mapping, initiating collection of subsurface data, initiating preparation of a cultural resources survey report, initiating a hydraulic design, and project coordination. The preconstruction engineering and design effort is scheduled for completion in September 1993.

MOLLY ANN'S BROOK, NEW JERSEY
(PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'90 Budget Request	**$350,000**
Local Interest Recommendation	**$350,000**

Project Description

The study area, which is approximately 12 miles west-northwest of New York City, is located in Haledon, Prospect Park and Paterson, New Jersey. It includes Molly Ann's Brook from Union Avenue in Paterson upstream for 2.2 miles to Church Street in Haledon. Major flooding in recent years has adversely affected about 520 residential, commercial and industrial establishments in the 100-year flood plain.

The plan of improvement recommends a modified channel with a total length of 14,730 feet which combines earthen and riprap lined trapezoidal channels with concrete flumes and a drop structure.

The proposed plan would provide general protection against a 50-year flood event throughout the planning area. The average annual equivalent damages which would result without the project are estimated at over $2,000,000.

Local Interest Recommendation

The Molly Ann's Brook at Haledon, Prospect Park and Paterson, New Jersey flood control project is authorized for construction by the Water Resources Development Act of 1986. Local interest have expressed a willingness to act as the non-federal cooperating agent for this flood control project.

We wish to support the FY'90 budget request of $350,000 which will be used to continue the preconstruction engineering and design phase of this project. Included in this phase will be the development of a plan of study, schedule and cost estimates, initiation of topographic data collection as well as technical studies. This preconstruction engineering and design effort is scheduled for completion in June 1994.

NEW JERSEY SHORE PROTECTION, NEW JERSEY (STUDY)

FY'90 Budget Request	**$240,000**
Local Interest Recommendation	**$240,000**

Project Description

This study consists of the coastal area of New Jersey from Sandy Hook to Cape May Point. This coastal area is broadly defined to include inland areas impacted by stream flow and run-off, and coastal waters beyond the limit of deepwater disposal sites. It also includes adjacent coastal areas to the north and south which may contribute pollutants or forcing functions to the main study area.

Pollution events along the coast included algae blooms, dolphin kills, high bacteria levels and garbage slicks. These events contributed to business losses estimated at $350 million to $1.4 billion during the summer of 1987.

Severe erosion from the action of storm tides, tidal currents, wind waves and swells occurred along the study area, causing considerable economic loss. Substantial quantities of sand are being continuously lost, thereby narrowing and lowering the beaches. Public and private properties are subject to storm damage from wave attack and tidal inundation.

Local Interest Recommendation

Overall these problems represent a serious deficiency in the quantity and character of coastal information available to predict or monitor coastal water quality and erosion. A comprehensive data collection effort is needed to better understand coastal processes, and to improve the engineering base of Corps of Engineers projects.

The Corps of Engineers was recently authorized to undertake a large comprehensive study of coastal resources along the entire coast of New Jersey, prompted by numerous coastal problems during the 1987 summer season. This study will include the development of a physical, environmental, and engineering data base on coastal area changes and processes.

We wish to support the FY'90 budget request of $240,000 to continue and complete the Reconnaissance Phase study to develop recommendations for the prevention of further water quality degradation and pollution of New Jersey coastal waters. The study is strongly supported by the State of New Jersey.

PASSAIC RIVER EAST BANK STABILIZATION, NEW JERSEY (STUDY)

FY'90 Budget Request	**$150,000**
Local Interest Recommendation	**$150,000**

Project Description

This study area extends about nine miles along the Passaic River from its mouth at Kearny to Dundee Dam in Garfield, New Jersey. The study will determine the feasibility of streambank erosion protection, to include flood protection measures and recreational facilities. The study will be conducted in coordination with the Passaic River Restoration Steering Committee.

As part of the study, an East Bank stabilization project was authorized in Section 603 of the Water Resources Development Act of 1986. Consultation with the Passaic River Restoration Committee was mandated and the project was authorized without a Corps of Engineers Report.

Local Interest Recommendation

The proposed plan would stabilize the erosion of the east bank of the lower Passaic River, control over bank flooding and enhance and create recreational opportunities in a highly urbanized area. These communities have a documented shortage of recreational facilities. Depending upon timing of implementation, this project may be part of the recommended plan for Passaic River Main Stem flood damage reduction.

We wish to support the FY'90 budget request of $150,000 which will be used to continue the feasibility phase of this study. The State of New Jersey also requests that this study be integrated into the Passaic River Main Stem project and implemented concurrently.

PASSAIC RIVER MAIN STEM, NEW JERSEY AND NEW YORK (PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'90 Budget Request	**$3,900,000**
Local Interest Recommendation	**$3,900,000**

Project Description

The Passaic River Basin encompasses 935 square miles in northern New Jersey and southeastern New York State. The Basin is drained by the Passaic River and its seven major tributaries: Saddle River, Pompton River, Ramapo River, Pequannock River, Wanaque River, Rockaway River and Whippany River. The flood plain area comprises more than 80 square miles and encompasses 45 municipalities.

The plan has been developed to protect over 30,000 structures in the critical flood problem area. The most severe recent flood occurred in April 1984, claiming two lives, with damages estimated at $360,000,000. The entire Basin, or portions thereof, was declared a disaster area in 1968, 1971, 1973, twice in 1975 and in 1984. The recurrence of the October 1903 flood of record would cause damages of nearly $2 billion as well as the potential loss of lives.

The major elements of this flood control proposal are the two tunnels, with the key being the 13.5-mile long, 39-foot diameter main tunnel, which will carry floodwaters from an inlet at the upper end of the Pompton River down to an outlet on the west bank of the Passaic River, just upstream of its confluence with the Third River in Clifton. The diversion tunnels and associated surface work are designed to protect against a 100-year flood event.

Local Interest Recommendation

This is a major project for th entire Passaic River Basin and as such the Passaic River Main Stem Flood Protection Feasibility Report has recommended the preparation of preconstruction engineering and design studies for this flood control plan.

PASSAIC RIVER VICINITY OF BEATTIE'S DAM, NEW JERSEY (STUDY)

FY'90 Budget Request	**$200,000**
Local Interest Recommendation	**$200,000**

Project Description

The study area is located on the Passaic River upstream of Beatties Dam in the Townships of Little Falls, Totowa, Wayne and Fairfield, New Jersey. This will determine the feasibility of providing local flood control protection measures and modifications to the existing non-federal dam. Major flood damage area exist in the above municipalities. The most severe recent flood occurred in April 1984, resulting in damages estimated at nearly $70 million. Other floods occurred in 1968,

1971, 1973 and 1975. The average damages from flooding to residential and commercial properties is in excess of $10,000,000 annually.

This project was authorized by the Water Resources Development Act of 1986. Although not stated in the Act, the project desired by local interests consists of modification of Beattie's Dam and upstream channel work. The project was authorized without a Corps of Engineers report.

Local Interest Recommendation

In FY '88, funds were allocated to initiate and complete a reconnaissance study to determine the need for detailed studies, obtain local cost-sharing and develop a plan for the feasibility phase of the study.

The feasibility study phase of the project is investigating any alternatives available and the modification to Beattie's Dam in conjunction with the upstream snagging, clearing and channel rectification of the Passaic, Pompton, Pequannock, and Ramapo Rivers and tributaries, including Singac Brook and Weasel Brook.

Local interests have requested that Beattie's Dam be modified in order to lower upstream flood stages and reduce flood damages. We wish to express our support for the FY'90 budget request of $200,000 to be used to continue the feasibility phase study of this project which if kept on schedule will be concluded in March of 1991.

RAMAPO AND MAHWAH RIVERS, MAHWAH, NEW JERSEY AND SUFFERN, NEW YORK (CONSTRUCTION)

FY'90 Budget Request	**$330,000**
Local Interest Recommendation	**$330,000**

Project Description

The Ramapo and Mahwah Rivers in the Township of Mahwah, New Jersey, have been adversely affected by storm flooding. Over 220 structures, primarily residential and several commercial and industrial establishments, have been damaged in recent years.

The Mahwah/Suffern area has experienced chronic flooding with recent floods in 1968, 1971, 1973, 1977, 1979, 1980, 1983 and 1984. The most damaging flood of record was the November 1977 storm. A recurrence of this storm, which has a return interval of approximately 40 years, would provide protection against a 100-year flood event in the major damage area.

In order to control flood damage for the Mahwah/Suffern area, the recommended plan includes channel modification along approximately 7,000 feet of the Rampo River and approximately 5,000 feet of the Mahwah River, and construction of a new bridge. Improvements would provide protection against a 100 year flood event to the major flood damaged area. The flood control recommendations would eliminate just under a million dollars of urban flood damage to the area annually.

Local Interest Recommendation

We wish to express support for the Fiscal Year 1990 Budget Request of $330,000 which will be used to continue the construction phase of the project. The State of New York and the State of New Jersey have each indicated their intent to comply with the items of local cooperation.

RAMAPO RIVER AT OAKLAND, NEW JERSEY (PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'90 Budget Request	**$200,000**
Local Interest Recommendation	**$200,000**

Project Description

The Ramapo River, particularly in the Townships of Oakland, Wayne and Pompton Lakes, New Jersey has experienced chronic flooding, with recent floods occurring in ten out of the last sixteen years. Surrounded by an area saturated with development, 300 residences, along with recreational facilities and several commercial and industrial establishments, have been adversely affected by major flood damage.

The recommended plan of improvement for the study area includes installation of 5-foot spillway crest gates atop Pompton Lakes Dam and 6,800 feet of channel modification along with Ramapo River, both designed to reduce flood elevations. These improvements would provide protection against a 40-year flood event to over 300 structures throughout the planning area. These improvements for flood control would eliminate over $750,000 of flood damage per year.

This project has been authorized for construction by the Water Resources Development Act of 1986. The State of New Jersey has indicated its willingness to act as the non-federal cooperating agent for this project for land easements, rights-of-way and relocations as are necessary for the project.

Local Interest Recommendation

We wish to express support for the Fiscal Year 1990 Budget Request of $200,000, which will be used to continue the preconstruction engineering and design, include the completion of topographic data collection and mapping, initiate collection and subsurface data, preparation of a cultural resources survey report, hydraulic design and project coordination. This preconstruction engineering and design effort is scheduled for completion in September 1992.

RARITAN RIVER BASIN, GREEN BROOK SUB-BASIN, NEW JERSEY (PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'90 Budget Request	**$1,200,000**
Local Interest Recommendation	**$1,200,000**

Project Description

Located within the Raritan River Basin in north central New Jersey (Middlesex, Somerset and Union Counties), the Green Brook

Sub-Basin study area drains approximately 65 square miles of urban, suburban and industrialized area.

Major flooding losses include not only physical damage to property but loss of public access to commercial and industrial activity, rail and vehicular traffic. In 1971, Hurricane Doria caused more than $22 million in damage, while another major storm in 1973 contributed to six deaths, residential evacuation and over $25 million in damages. Today, such a storm would cost nearly $65 million.

The recommended plan for flood control consists of approximately 15 miles of levees and floodwalls along the Green Brook and its tributaries; six pumping stations; 12 bridge replacements; and approximately three miles of stream realignment. The proposed plan for flood control would help eliminate the approximately $11 million in flood damage that occurs in the area annually.

Local Interest Recommendation

The Water Resources Development Act of 1986 authorized construction of the project described as Plan A in the report of the District Engineer. This project would include protection for the upper Green Brook Sub-Basin and the Stony Brook Sub-Basin and the Stony Brook tributary, in addition to protection for the Lower Green Brook Sub-Basin.

The State of New Jersey has expressed a preference for the authorized plan, which would also provide protection to the upper basin communities. The Green Brook Flood Control Commission, composed of representatives of the Sub-Basin communities in three counties, also supports this position.

Fiscal Year 1989 funds are being used to continue the PE&D phase of this project, which includes refinement of hydraulic design and the initiation of structural design. In order to move this project to its scheduled completion date of January 1992, we wish to express our support for the FY'90 budget request of $1,200,000 to be used to continue the preconstruction engineering and design studies and preparation of the General Design Memorandum.

SANDY HOOK TO BARNEGAT INLET, NEW JERSEY (CONSTRUCTION) (PRECONSTRUCTION ENGINEERING AND DESIGN)

FY'90 Budget Request	$5,600,000
Local Interest Recommendation	$5,600,000

Project Description

The overall project area lies along the Atlantic Ocean Shoreline of New Jersey in Monmouth and Ocean Counties between Sandy Hook to the North and Barnegat Inlet to the South.

Erosion has seriously reduced the width fo most beaches in the study area, with consequent exposure of shore to storm damage. The State of New Jersey and majors of the affected communities are also very concerned over the increased potential for damages to residential and commercial structures.

The March 1962 storm caused $31,100,000 worth of damages (based in today's dollars) along the 25-mile stretch of shore from Sandy

Hook to Manasquan Inlet. Subsequent emergency restoration works in this reach cost over $7 million (again in 1987 dollars)

Improvements to Section I include 12 miles of beach placement, construction of 23 groins and extension of 14 existing groins. Section II also suffers from eroding beaches and calls for beach placement over nine miles.

Local Interest Recommendation

Consistent with the Water Resources Development Act of 1986, the non-federal share of construction and maintenance of the Ocean Township to Sandy Hook reach consists of monies expended by non-federal interests for reconstruction of the seawall at Sea Bright and Monmouth Beach.

The urgency of this project results from even less beachfront being in place today as a result of erosion and storms. Local communities are fearful that the next coastal storm would be catastrophic with increased risk of coastal flooding from storm surges.

We wish to express our appreciation and our support for the FY'90 budget request of $5,600,000 which will be used to continue the construction contract for Section I and to proceed with the PE&D phase for Section II. That state of New Jersey has stated its willingness to provide the items of local cooperation and has escrowed the necessary state share to demonstrate a commitment to this project.

WATER SUPPLY

FRANCIS E. WALTER DAM, PENNSYLVANIA (MODIFICATION) (CONSTRUCTION)

FY '90 Budget Request	**$4,100,000**
Local Interest Recommendation	**$4,100,000**

Project Description

The Francis E. Walter Dam project is a water supply/flood control project. The existing dam rises to a maximum height of 234 feet above the streambed and extends 300 feet across the valley. The proposed modification involves raising the existing dam by 30 feet for the purpose of providing long term storage for water supply and recreational use, with no reduction in flood control storage. Water supply storage will amount to 23 billion gallons (70,000 acre-feet) to benefit the entire Delaware River Basin. This area experienced its greatest drought of record during the 1960's. In 1981, 1984 and 1985 the Basin also experienced a serious lack of rainfall that prompted the Delaware River Basin Commission (DRBC) to declare a drought emergency.

Local Interest Recommendations

Preconstruction engineering & design for this project started in FY '81 and the General Design Memorandum was complied in July 1985. The GDM was approved in November 1986 and the plans and specifications for the first construction contract were completed in June 1986.

We wish to support the Fiscal Year 1990 Budget Request of $4,100,000 for construction of this project, which is also part of the Delaware River Basin Commission's Comprehensive Plan. This modification, listed as a Pennsylvania project, will aid four states represented in the Delaware River Basin Compact (Delaware, New Jersey, New York, and Pennsylvania). The increased capacity of this reservoir will contribute to long range water supply storage capability and regional economic stability through drought protection.

FRANCIS E. WALTER DAM, PENNSYLVANIA (OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$588,000**
Local Interest Recommendation	**$588,000**

Project Description

The existing flood control and water supply dam rises to a maximum height of 234 ft. above the stream bed and extends 3000 ft. across the valley. The modification to the existing dam to provide additional storage for water supply will include raising the dam by 30 ft. and replacing the existing intake tower and spillway. The water supply storage to be provided will be 70,000 acre-feet.

F.E. Walter Dam is located on the Lehigh River, 1/2 mile downstream of confluence of the Lehigh and Bear Creek in Luzerne and Carbon Counties, PA and about 75 miles upstream of confluence of the Lehigh and Delaware Rivers at Easton.

Local Interest Recommendation

We wish to support the FY'90 Budget Request of $588,000 for the operations and maintenance of this project which benefits the four states represented in the Delaware River Basin Compact (Delaware, New Jersey, New York and Pennsylvania). This reservoir contributes to the water supply and flood control storage capacity of the entire region.

PROMPTON LAKE, PENNSYLVANIA (OPERATIONS & MAINTENANCE)

FY'90 Budget Request	**$335,000**
Local Interest Recommendation	**$335,000**

Project Description

Prompton Lake, a flood control and water supply project, is located on the Lackawaxen River, approximately 30 miles from the confluence of the Lackawaxen and Delaware Rivers in northeast Pennsylvania. The present dam extends to a maximum height of 140 feet above the stream bed.

Prompton Reservoir controls the runoff from a drainage area of about 60 square miles and storage capacity for flood control. The authorized modification to Prompton would provide an active

long-term storage of approximately nine billion gallons of new water supply to the Delaware River Basin region. Two recent drought emergencies in the Delaware River Basin give emphasis to the early need for additional supplies of water. This project has been authorized by the Water Resources Development Act of 1986, and is included as part of the Comprehensive Plan of the Delaware River Basin Commission (DRBC).

Local Interest Recommendation

While listed as a Pennsylvania project, this project also aids the States of Delaware, New Jersey and New York who are represented jointly (along with the U.S. Department of the Interior) in the 1961 Delaware River Basin Compact.

We wish to support the Fiscal Year 1990 Budget Request of $335,000 for operations and maintenance of this project which contributes to the flood control and water supply storage capacity of the entire region.

PLANNING ASSISTANCE

SECTION 22, P.L. 93-251, NEW JERSEY (PLANNING ASSISTANCE)

FY'90 Budget Request	**$ - 0 -**
Local Interest Recommendation	**$300,000**

Project Description

Section 22 of the Water Resources Development Act of 1974 provides authority for the Corps of Engineers to assist the States in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land resources. Assistance is provided on the basis of state requests and eligibility is determined by the objectives of the state studies. Consequently, the state must have a planning program either underway or characterized in sufficient detail so that the validity of its request may be appraised. In addition, only that assistance which can be undertaken by Corps personnel may be provided.

In accordance with P.L. 99-662, state allotments from the nationwide appropriation are limited to $300,000 annually, but may be less, depending upon the needs of individual states. The program can encompass may types of studies, including water supply, water quality, water conservation, hydropower development, flood control, erosion, and navigation. Typical studies are at a reconnaissance level of detail.

Local Interest Recommendation

This project was established to provide planning assistance to states. Funds requested are to be utilized by the Corps of Engineers to perform engineering evaluations of water resource problems within the State of New Jersey.

This planning program has provided meaningful levels of funding for which New Jersey is most appreciative. However, there are several planning projects for which we wish to request funds in FY'90 through this program. The total funds requested for these proposed studies is $300,000 and the state of New Jersey is prepared to financially participate as may be necessary to secure these funds.

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New Jersey Department of Commerce, Energy & Economic Development

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New Jersey Alliance for Action

New Jersey Department of Commerce, Energy and Economic Development

New Jersey Department of Environmental Protection

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New Jersey State Chamber of Commerce

PENJERDEL Council

Philadelphia Maritime Exchange

Port Authority of New York & New Jersey

South Jersey Port Corporation

The Pilot's Association for the Bay & River Delaware

United Sandy Hook Pilots Association

Atmospheric Water Resources Research and Colorado Salinity Control Projects

Senator Reid. We have received a number of statements regarding atmospheric water resources research and Colorado Salinity Control programs. Without objection, those statements will be made part of the record.

[The statements follow:]

STATEMENT OF UPPER COLORADO RIVER COMMISSION

Summary of Specific Action Requested

Appropriation of funds recommended by the representatives of the States of Colorado, New Mexico, Utah, and Wyoming for the Colorado River Storage Project and participating projects.

Mr. Chairman, the Upper Colorado River Commission is an interstate compact administrative agency created by the Upper Colorado River Basin Compact of 1948. The member States of the Upper Colorado River Commission are: Colorado, New Mexico, Utah, and Wyoming. Since its inception, the Commission has actively participated in the development, utilization, and conservation of the water resources of the Colorado River Basin.

The member States of the Upper Colorado River Commission have always given strong support to water resources development in the Upper Colorado River Basin and in particular to the Colorado River Storage Project and participating projects. We who are interested in water resources development in the Basin appreciate the opportunity to provide testimony before this subcommittee in support of the appropriation of funds to continue the construction and operation of the Colorado River Storage Project and participating projects in Fiscal Year 1990.

Representatives of each of the Commission's member States will submit testimony to this subcommittee in support of specific appropriation requests that reflect the official position of each State with respect to the development of the water resource projects and programs in the Upper Colorado River Basin; and the States' testimony is fully supported by the Commission. You will note that the States' requested funding for the Fiscal Year 1990 ongoing program for the Colorado River Storage Project and participating projects is above that proposed in the President's Budget for the Bureau of Reclamation. Through these requested appropriations, water resource projects and programs within the Upper Colorado River Basin can be funded at a level that will benefit the local, regional, and national economies.

Specifically, the Upper Colorado River Commission requests an appropriation of $163.216 million for the Bureau of Reclamation's regular construction program. Of that amount, $5.9 million is for the Animas-La Plata Project in Colorado and New Mexico, $116.170 million is for the Bonneville Unit of the Central Utah Project in Utah, and $41.146 million is for the Dolores Project in Colorado. A comparison of the funding levels contained in the President's Fiscal Year 1990 Budget and the amount being requested by the Commission is shown in the following table:

Project	President's Budget	Commission's Request
	(Thousand Dollars)	
Animas-La Plata Project	$ 3,727	$ 5,900
Bonneville Unit (CUP)	116,170	116,170
Dolores Project	41,146	41,146
	$161,043	$163,216

Funding levels contained in the President's Fiscal Year 1990 Budget for other activities associated with the Colorado River Storage Project and participating projects are fully supported by the Commission and include:

Activity	President's FY 1990 Budget (Thousand Dollars)
CRSP, Drainage and Minor Construction:	
Central Utah Project:	
Jensen Unit	$ 122
Dallas Creek Project	265
Total	$ 387
CRSP, Preconstruction Activity:	
Central Utah Project:	
Uintah Unit	$ 50
Total	$ 50
CRSP, Section 8:	
Central Utah Project:	
Bonneville Unit	$19,154
Dolores Project	1,348
Dallas Creek Project	3,038
Wayne N. Aspinall Unit	553
Seedskadee National Wildlife Refuge	4,178
Total	$28,271
Seedskadee Project/Fontenelle Dam Rehabilitation	$ 250
Total	$ 250

The above level of appropriations is needed to ensure that the full benefits received from these projects will be attained in a timely manner.

In addition to the above-stated support for funding the Colorado River Storage Project and participating projects for Fiscal Year 1990, the Upper Colorado River Commission supports Bureau of Reclamation funding for two other programs: (1) development and implementation of the Colorado River Salinity Control Program described in Public Law 93-320, as amended, and (2) continued funding for precipitation management research conducted under the Atmospheric Water Resources Management Program.

The Colorado River Salinity Control Program, which authorizes both Title I and Title II projects, is designed to maintain salinity levels in the Colorado River system within established numeric criteria while the Basin States continue to develop their Compact-apportioned waters. This program is endorsed by the seven Colorado River Basin States and the Federal Government and is essential to the overall development and management of the Colorado River Basin. Specifically, the Commission requests an appropriation of $19.060 million for the Bureau of Reclamation's Title I Colorado River Basin salinity control program and $19.55 million for the Title II program. A comparison of the amounts contained in the President's Budget and the funding level requested by the Upper Colorado River Commission for these programs is as follows:

Activity	President's FY 1990 Budget	Commission's Request
	(Thousand Dollars)	
Title I Program	$19,060	$19,060
Title II Plan Formulation	$ 1,235	$ 1,200
Title II Advance Planning	$ 0	$ 300
Title II Construction		
(a) Grand Valley	$ 8,239	$10,000
(b) Paradox Valley	2,461	3,000
(c) Las Vegas Wash	0	50
(d) Lower Gunnison Winter Water	0	5,000
Subtotal	$10,700	$18,050
TOTAL Title II Program Funding	$11,935	$19,550
TOTAL Title I and Title II Program	$30,995	$38,610

A more detailed statement regarding the specific funding for the salinity program will be presented in the testimony of the Executive Director of the Colorado River Basin Salinity Control Forum as well as by representatives of the Colorado River Basin States.

During the past several decades, the Division of Atmospheric Resources Research of the Bureau of Reclamation has advanced research technology associated with precipitation management. To continue the needed research and to participate on a cooperative basis with agencies within nine of the Reclamation States, the Upper Colorado River Commission supports an appropriation of $4.2 million for the Atmospheric Water Resources Management Program of the Bureau of Reclamation. A Joint Statement of the Seven Colorado River Basin States that outlines the need and justification for this requested appropriation has been transmitted to the Subcommittee, and it is supported by the Upper Colorado River Commission.

Mr. Chairman, on behalf of the Upper Colorado River Commission, thank you for providing the Commission an opportunity to present this statement for the subcommittee's consideration.

STATEMENT OF COLORADO RIVER WATER USERS ASSOCIATION

1990 FUNDING
COLORADO RIVER BASIN SALINITY CONTROL
DEPARTMENT OF INTERIOR

I appeared before your Committee last week as a member of the Arkansas River Basin Interstate Committee, representing the great States of Missouri, Oklahoma, Arkansas, Kansas and Colorado, and want to respectfully and sincerely thank you for the courtesy extended in permitting our group to testify in support of critical appropriations for water projects along the Arkansas River.

Today I am writing to you in my capacity as President of the seven state Colorado River Water Users Association, representing the great States of California, Arizona, Nevada, New Mexico, Utah, Wyoming and Colorado, and ask for the support and recommendation of your Committee for necessary funding for the critical Colorado River Basin Control Program in the amount of $18.050 million for construction, $1.235 million for plan formulation, and $300,000 for advance planning to further work on other units scheduled for implementation. The President of the United States recommended a Budget of $10.700 million for construction, and $1.235 for planned formulation, and nothing for advance planning.

This program involves cost sharing of 30% from the individual Basin States, and water users therein, and includes $5 million for construction on the Lower Gunnison Basin Salinity Control - winter water program in Colorado. The winter water program of this unit is the most cost effective salinity control measure in the plan, and it is essential that the work continues. There are a number of other projects included in the over-all program, which together will carry forth the intent of the Congress of the United States to reduce the salinity in the Colorado River, and return great economic benefits through the sale of those waters. The reverse is requests for funds to alleviate serious damages to agricultural and domestic programs, particularly in the Lower Basin States.

We do appreciate the fiscal constraints which are in place, but do respectfully feel the increased appropriations for these programs will be more than offset from the increased economic benefits in the affected areas, and the fewer requests for funding to repair damages. I am enclosing the required 15 copies of this letter, which I respectfully request be distributed to your distinguished colleagues. We sincerely hope, Mr. Chairman, your Committee will recommend approval of the additional funds for FY 1990.

1990 FUNDING FOR
PRECIPITATION MANAGEMENT RESEARCH
DEPARTMENT OF INTERIOR

I had the pleasure last week of appearing before your Committee as a member of the Arkansas River Basin Interstate Committee, representing the great States of Arkansas, Missouri, Oklahoma, Kansas and Colorado, requesting support of your Committee for essential appropriations for water projects in those five states. I certainly want to express my appreciation to you, members of your Committee, and your distinguished Staff, for the manner in which you accommodated organizations such as ours during a series of extensive hearings.

I am writing today, Mr. Chairman, in my capacity as Chairman of the seven state Colorado River Water Users Association, representing the great States of California, Arizona, Nevada, New Mexico, Utah, Wyoming and Colorado. This Association was created in 1945 at the behest of your former distinguished and highly respected colleague, the Honorable Alan Bible, who insisted that water

users in the seven states coordinate their activities in a cooperative and productive manner, particularly in matters pending before the Congress of the United States. Accordingly, each year the members adopt Resolutions setting forth our specific positions regarding water resource matters affecting the Basin.

This letter, Mr. Chairman, is written to support the letter and Resolutions of March 27, 1989 adopted by the Colorado River Board of California, and a number of individual state organizations, requesting the appropriation of $4.2 million for FY 1990 to continue the U.S. Bureau of Reclamation Atmospheric Water Resources Management Program. These funds are matched by nonfederal funds from 11 agencies in nine individual states, who recognize the absolute importance in carrying on the proven Atmospheric Management Program developed by the Bureau of Reclamation. Laboratory and field studies estimate the snow pack enhancement could add an average of between 1.5 and 2 million acre-feet of water per year, which in extremely dry years, such as we have experienced, and appear to face in 1989 - 1990, can make the difference between profitable crops and adequate water for domestic use. We also feel, Mr. Chairman, the concept can be employeed in other River Basins which have also experienced extremely dry and drought conditions.

I am enclosing the required 15 copies of this letter, which I respectfully request be distributed to your distinguished colleagues, with the sincere hope your Committee will approve the appropriation, and recommend approval by the Congress of the United States.

STATEMENT OF WESTERN STATES WATER COUNCIL

The Western States Water Council supports funding for weather modification research and demonstration activities of the U.S. Bureau of Reclamation. I am enclosing a Council resolution as evidence of this support.

In discussing this matter with Council members, it clearly appears weather modification or precipitation management is an important cost effective tool. It is a means of enhancing water supplies, with related benefits such as increased hydropower production, improved in-stream flows and better water quality. Due in large measure to joint federal/state program expenditures, the feasibility and effectiveness of this important technology has been proven, though much remains to be done.

During 1988, a devastating drought ravaged important agricultural areas in the Midwest. Drought has plagued many western states for the past two or three years, and remains a present and future threat. In part due to the drought, increasing national attention has been focused on the greenhouse effect and global warming, with potentially serious changes in precipitation patterns. The current Administration's FY90 budget request includes around $200M for related research programs by various agencies. Ironically, over this same period of time budget requests and congressional appropriations for Bureau of Reclamation weather modification research and demonstration activities have been sharply cut back from $5.7M in FY87 to nothing for FY90.

Last year, the Western States Water Council adopted the enclosed resolution calling on Congress to appropriate a minimum of $3.7M to support weather modification activities of the U.S. Bureau of Reclamation's Division of Atmospheric Resources Research. The States of Arizona, California, Kansas, North Dakota, Nevada, Oklahoma, Texas, Utah and Wyoming had pledged matching cooperative funds. Other states also expressed interest. Despite substantial and growing support, funding was not provided. The Division of Atmospheric Resources Research was dissolved, leaving only a small

office to handle a small pilot training program and foreign contract work. Again, it is ironic that foreign governments seek our expertise in this area, while we discontinue domestic activities.

In the Colorado River Basin, where water use is highly competitive, it has been estimated that an aggressive weather modification program could increase precipitation by as much as 10%. This additional water would benefit the nation, as well as the basin states and region. For example, potential federal uses include hydropower production, Indian water right settlements, honoring international allocation and water quality agreements, and environmental uses such as the protection of instream flows for recreation, fish and wildlife habitat, endangered species, and salinity control. The 1968 Colorado River Basin Storage Project Act committed Congress to seeking alternative sources to augment Colorado River water supplies by 2.5 million acre-feet per year. Similar federal benefits could be achieved in other river basins.

We would urge you to carefully consider and support efforts to restore funding in FY90 for Bureau of Reclamation weather modification activities. Cooperative federal/state efforts and expenditures have proven the technology works, but without continued funding we will not realize the potential return on our past investment. In FY90, an estimated $4.2 million appropriation could be wisely spent, with a similar matching amount contributed from non-federal sources. Abandoning this successful program now is short-sighted, given our pressing national water resource problems and the threat of future climatic change. We would appreciate your support on this issue.

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
Support for Continued Weather Modification Programs
January 22, 1988

WHEREAS, the long-term water supplies of most western rivers are over-committed; and

WHEREAS, one of the most cost-effective means of augmentation of river supplies is through weather modification; and

WHEREAS, weather modification benefits may enhance water supplies and thereby benefit such secondary factors as increased hydropower, improved in-stream flows and improvement of water quality; and

WHEREAS, ten Western states have indicated intent to perform weather modification programs in cooperation with the Bureau of Reclamation (AZ, CA, KS, ND, NV, OK, TX, UT, WY, MT); and

WHEREAS, the Bureau of Reclamation Atmospheric Resources Division is a leader in the science of weather modification and is competent to develop and demonstrate proven technology; and

WHEREAS, there is an urgent need to maintain, extend and transfer this important technology from the Bureau of Reclamation to the States and water suppliers through demonstration programs; and

WHEREAS, weather modification programs are consistent with the new goals of the Bureau of Reclamation to better manage existing projects to provide more power and water.

NOW THEREFORE BE IT RESOLVED that we urge the Congress and the Administration to support the U.S. Bureau of Reclamation Division of Atmospheric Resources Research with continuing funding at a minimum level of $3.7 million to support current programs.

BE IT FURTHER RESOLVED that the U.S. Bureau of Reclamation Division of Atmospheric Resources continue to provide for operations and transfer of technology through at least 1995 to accommodate programs presently planned.

BE IT FURTHER RESOLVED that the U.S. Bureau of Reclamation include weather modification as part of its program priorities.

STATEMENT OF THE COLORADO RIVER BASIN SALINITY CONTROL FORUM

RECENT BACKGROUND
Detailed Fund Allocation

In 1984 the Congress acted to revise the Salinity Control Act and to establish a policy increasing the Basin States' cost-share to 30 percent of newly authorized salinity control works. This increase has made the Basin States even more attentive to the cost-effectiveness of the various components of the Colorado River Basin Salinity Control Program.

After significant efforts to coordinate the views of many federal agencies and the seven Basin States, the Colorado River Basin Salinity Control Forum finalized the triennial report required under the Clean Water Act. That document, entitled the 1987 Review, Water Quality Standards for Salinity, Colorado River System, establishes a plan for salinity control in the Colorado River Basin that is in agreement with federal agencies' findings as to needs and recommended programs. These programs are required to maintain state-adopted and EPA-approved water quality standards for the River.

In October 1988, the Colorado River Basin Salinity Control Forum concluded that to implement the needed and necessary program identified in that report, the Bureau of Reclamation would require a total appropriation of $19,550,000 in FY 90. The President has requested only $11,935,000. The Basin States have re-examined all of the features needed to control the salinity in the Colorado River. They have concluded that the President's budget is not adequate to ensure that degradation of the water quality with respect to salinity of the Colorado River does not occur, and total dissolved solid levels do not exceed the water quality numeric criteria agreed to by the States and concurred upon by EPA.

With respect to construction, the Basin States urge the appropriation of $10,000,000 for continuation of canal and lateral lining in the Grand Valley of Colorado; the appropriation of $3,000,000 for the continuation of the construction of facilities to dispose of salt brines in the Paradox Valley of Colorado; the appropriation of $50,000 to monitor the Las Vegas Wash area of

Nevada; and the appropriation of $5,000,000 for construction in the Lower Gunnison area of Colorado so that the winter water supply can be placed in pipelines. This latter appropriation would allow construction to begin on one of the most cost-effective salinity control features now available in the Bureau of Reclamation's Colorado River Basin Salinity Control Program. Last year the Congress appropriated funds for construction design, and the Bureau of Reclamation is ready to proceed with construction. The Basin States urge that in addition to the moneys requested by the President, $300,000 also be appropriated for advance planning for use on the Lower Gunnison Unit and at other locations.

The Forum supports the President's budget for plan formulation. These funds would be used for further analysis of salinity control opportunities at the Uinta Basin Unit, Utah; the Price San Rafael Unit, Utah; the San Juan Unit, New Mexico; the Glenwood-Dotsero Unit, Colorado; and the Lower Virgin River Unit, Nevada as well as to examine the cost-effectiveness of the overall program and to search for opportunities to remove additional salts from nonpoint sources.

It is noted that funds have been requested by Reclamation in the portions of their budget related to operation and maintenance and general administrative expenses. The Forum supports funding levels that will ensure adequate operation and maintenance of constructed salinity facilities and that would ensure the needed coordination and technical support functions.

Failure to appropriate the above-identified funds for FY 90 will result in a greatly increased probability that water quality standards for salinity will be violated in the Colorado River in the years ahead. It will also mean that in the future when an adequate program is ultimately constructed and paid for, the costs will be significantly higher than they would be if the above funds were now made available.

JUSTIFICATION

The waters of the Colorado River system serve some 18 million people and irrigate approximately 1.6 million acres in the seven Colorado River Basin States. The River also provides domestic and irrigation water to Mexico. Salinity has long been recognized as one of the major problems in the River. Water users in the lower reaches of the River system have suffered significant adverse impacts due to the River's salinity. These impacts have been estimated to be in excess of $300 million a year. Without salinity control measures and with increased demands for Colorado River water in the Basin, the River's salinity is projected to double by the turn of the century, with concomitant increases in salinity damages.

The Basin States' concern with the River's increasing salinity led to the creation of the Colorado River Basin Salinity Control Forum in 1973. The Forum, whose members are appointed by the governors of the respective states, developed a salinity control policy that called for maintaining salinity concentrations at or below those levels found in the lower River in 1972, while the Basin States continue to develop their compact-apportioned waters. The Forum has a continuing responsibility to see that a salinity control plan is implemented to meet the policy objectives.

After discussions between the federal government, the Republic of Mexico and the seven Colorado River Basin States, the Congress enacted in 1974 the Forum-sponsored Colorado River Basin Salinity Control Act (P.L. 93-320). Title I of the Act established a

program to reduce the concentration of salts in the Colorado River below Imperial Dam (the last diversion point in the United States) for waters being delivered to Mexico. Title I was identified by Congress as a federal commitment. The Act also established an associated program, Title II, which allowed the states and the federal government to work together to prevent salinity increases in the Colorado River above Imperial Dam, benefitting users in the United States as well as Mexico. The 1974 Act also created a Colorado River Basin Salinity Control Advisory Council, composed of gubernatorial representatives of the Basin States to advise the Secretaries of the Interior and Agriculture and the Administrator of the Environmental Protection Agency as to needed annual adjustments to the salinity control effort.

In 1984, Congress enacted much-needed amendments to the 1974 Act that were advanced by the Forum. The amendments (Public Law 98-569) authorized additional activities for the Departments of the Interior and Agriculture that were needed in order to meet the objectives of the Act. Previously the Congress had required the Basin States to, over a period of time, reimburse the Bureau of Reclamation expenditures in the amount of 25 percent of the total construction costs. The 1984 amendments by Congress required that for newly authorized construction, the Basin States must pay 30 percent of the construction costs upon expenditure, or over a period of time with interest.

Since the enactment of the 1984 amendments, the Basin States and all of the involved agencies of the federal government have worked diligently to formulate a program that would minimize the cost of controlling the salinity of the Colorado River. These cooperative study efforts have shown that the salinity of the River can now be controlled to meet the objectives of the Act as amended, with a funding level significantly less than that initially identified.

The above findings have been published in the 1988 Joint Evaluation of Salinity Control Programs in the Colorado River Basin. This report, prepared jointly by all of the federal agencies involved in the salinity control effort (in consultation with the States), provides the best information available, at this point in time, to justify our requested level of appropriation. Unfortunately, the President's recommended appropriation does not satisfy the funding needs identified in this report.

The Advisory Council made specific recommendations in its January 1989 Annual Report relative to FY 90 funding for the Salinity Control Program. The Colorado River Basin Salinity Control Forum supports the recommendations of the Advisory Council. The appropriation felt to be necessary by the Advisory Council and the Salinity Control Forum with respect to the Bureau of Reclamation's budget for salinity control features for construction, advance planning, and plan formulation has been identified at the beginning of this statement.

In summary, we urge that the Senate Committee on Appropriations, Subcommittee on Energy and Water Development, recommend $19,550,000 to be appropriated. We feel it is important to again note that any further cuts in these appropriations would delay implementation of the Salinity Control Program, and could result in exceeding the salinity water quality numeric criteria for the River and significant future damage to the users of the Colorado River in the United States and Mexico. Catch-up funding attempts in future fiscal years will result in a program that will ultimately cost much more.

STATEMENT OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Fiscal Year 1990 Funding for the Bureau of Reclamation's Atmospheric Water Resources Management Program and the Department of the Interior's Colorado River Salinity Control Program

I am writing to solicit your support for adequate federal funding for two activities of vital importance to California and the other Colorado River Basin states. These activities are the Bureau of Reclamation's Atmospheric Water Resources Management Program and the Department of the Interior's Colorado River Salinity Control Program. The Metropolitan Water District of Southern California is responsible for meeting the supplemental water requirements of over 14 million people and the economy which supports them. Currently, Colorado River water is used to meet over 50 percent of these supplemental needs.

Atmospheric Water Resources Management Program

For years, the Bureau of Reclamation (Reclamation) has been developing technology and expertise in the field of precipitation management, commonly known as weather modification. Reclamation has been recognized both nationally and internationally for its accomplishments. The transfer of this technology to operational programs that would increase runoff in water-short areas has been a long-range goal of Reclamation and others with which it has cooperated in the past.

At a time when this technology would be of great benefit to many areas in the western United States, we find Reclamation facing funding cutbacks that are severely threatening to the federal capability in the field of precipitation management. Reclamation's effort has been carried out under its Atmospheric Water Resources Management Program which has experienced funding cutbacks of 90 percent and more during fiscal years 1988 and 1989. The President's proposed budget for 1990 contains no funds for this program. The scaling down of active federal participation in this field is of particular concern to Metropolitan as the program has been identified as one of the most promising means for augmenting the water supplies in the water-short Colorado River Basin. Without significant augmentation of the River, it is anticipated that shortages will have to be taken by river users after the turn of the century.

Congress, recognizing that there is insufficient water in the Basin to meet the long-term needs of the Basin states, passed the Colorado River Basin Project Act of 1968, Public Law 90-537. This Act authorized studies of measures to augment the water supplies of the Colorado River by 2.5 million acre-feet per year. In addition, the Act declared that satisfaction of the Colorado River water delivery requirements of the 1944 Water Treaty with Mexico constitutes a national obligation which shall be the first obligation of any future augmentation project. Through years of theoretical studies, laboratory and field experiments, and controlled cloud seeding, Reclamation has estimated that basinwide weather modification, or snowpack enhancement, would add an average of between 1.5 and 2.0 million acre-feet of water per year to the Colorado River supply.

Reclamation's Atmospheric Water Resources Management Program is the appropriate program for determining the feasibility of augmenting the Colorado River in a timely manner through a basinwide cloud-seeding program in the high mountainous watersheds. Reclamation is the logical agency to implement and operate such a program considering the federal responsibilities contained in the Colorado River Basin Project Act.

Metropolitan considers continued federal involvement in precipitation management research to be of utmost importance not only with respect to augmenting the water supply of the Colorado River, but also furthering the understanding of climatological trends and changes. There may also be opportunities for precipitation management to play a role in alleviating any adverse effects of climatological changes.

The Colorado River Basin states and other states have long recognized the importance of maintaining and improving federal capability in precipitation management research. Eleven agencies in nine states have expressed their interest and intent in participating in cooperative matching fund activities to advance precipitation management technology. A total of up to $4.2 million has been identified as nonfederal matching funds for this effort.

Metropolitan would like to reaffirm its strong support for continued precipitation management research at the federal level. We ask for your assistance and leadership in assuring that $4.2 million of federal matching funds are included in the fiscal year 1990 budget for Reclamation's Atmospheric Water Resources Management Program.

Colorado River Salinity Control Program

Metropolitan is also concerned with maintaining the quality of the Colorado River. Unfortunately, the President's proposed budget for fiscal year 1990 does not include sufficient funding for the Department of the Interior for the federal/State Colorado River Salinity Control Program. This program was authorized by Congress under the Colorado River Basin Salinity Control Act and the Clean Water Act. The cooperative program for control of salinity is cost shared with nonfederal interests, with 30 percent nonfederal funding. It will allow water quality standards for river salinity adopted by the states and approved by the Environmental Protection Agency to be maintained.

The proposed 1990 budget provides $10.7 million in construction monies for the Grand Valley and Paradox Valley units. However, it does not provide construction funding for the Lower Gunnison Basin Unit-Winter Water Program, one of the Bureau of Reclamation's most cost-effective salinity control measures. In fiscal year 1989, Congress appropriated $250,000 for design of the winter water program in order that construction could commence in 1990. An appropriation of $5.0 million is needed in fiscal year 1990 to allow for its timely construction.

In addition, $2.35 million over and above the President's proposed budget is required to continue the construction of the Grand Valley and Paradox Valley units in Colorado and the Las Vegas Wash Unit in Nevada to assure their timely implementation. While the proposed budget with respect to basinwide plan formulation is adequate, $300,000 is needed for advance planning of the Uinta Basin Unit in Utah.

The Colorado River Board of California (CRB) unanimously adopted a resolution in support of a 1990 appropriation of $19.55 million for Colorado River salinity control above Imperial Dam for the Department of the Interior. The CRB is the state agency charged with protecting the rights and interests of the State, its agencies, and citizens in the water and power resources of the Colorado River system. This recommendation includes $1.20 million for plan formulation, $300,000 for advance planning, and $18.05 million for construction and would provide the necessary monies for the projects mentioned. This is the funding level determined by the seven state Colorado River Basin Salinity Control Forum to be necessary in 1990 to maintain the water quality standards for river salinity. It is consistent with the state-adopted and federally-approved plan of implementation schedule.

Metropolitan is represented on the CRB and concurs with its recommended level of 1990 funding. With a construction funding increase of $5.54 million and inclusion of $300,000 for advance planning, progress can continue in controlling Colorado River salinity. Failure to adequately fund the program's timely implementation will result in higher salinity levels in the river. Your support in ensuring sufficient funding of the Colorado River Salinity Control Program for 1990 and beyond would be greatly appreciated by Metropolitan.

STATEMENT OF THE PALO VERDE IRRIGATION DISTRICT

The Palo Verde Irrigation District would like to request your support in securing adequate 1990 federal funding for the Atmospheric Water Resources Management Program of the U.S. Bureau of Reclamation. The President's proposed Fiscal Year 1990 budget does not provide any funds for this program. We are concerned that, with no program funds in 1990, following two years of program cuts of ninety percent or more, the decades of investment in and the integrity of the development of technology and expertise in the emerging field of precipitation management will be lost. Precipitation management, commonly referred to as weather modification, may represent the most feasible or only means for augmenting water supplies for many water short areas in the nation. In addition research in this field serves to foster a better understanding of climatological trend and changes and offers the potential means to offset or help mitigate the adverse effects of changes.

The Congress, in approving the Colorado River Basin Project Act of 1968, P.L. 90-537, recognized that there was insufficient water in the Basin to meet the long-term needs of the Basin states and authorized studies of measures to augment the water supplies of the Colorado River. Of the possible means of augmenting the river that have been identified, precipitation management to increase runoff is the most promising means of augmentation. Congress, in Section 202 of the 1968 Act, also declared that the satisfaction of the requirements of the Mexican Water Treaty from the Colorado River constitutes a national obligation which shall be the first obligation of any future augmentation project. To have the federal government rapidly diminishing its capabilities in precipitation management at a time when this technology needs to be further developed and advanced and transferred to operational programs does not make sense.

Many agencies outside of the Colorado River Basin also recognize the potential of precipitation management as a nonstructural means of augmenting water supplies in water short areas. Eleven agencies in nine states, including California, have expressed their interest in participating on a cooperative basis with the Bureau of Reclamation in the continued research and application of precipitation management. Collectively, the agencies have offered $4.2 million of nonfederal matching funds for continued precipitation management research with the goal of transferring this technology into operational programs.

The Palo Verde Irrigation District would like to reaffirm its strong support for the federal government to maintain and improve its capabilities in the field of precipitation management research. We ask your assistance and leadership to assure that $4.2 million of federal funds be included in the Fiscal Year 1990 budget for the Bureau of Reclamation for this purpose. The District greatly appreciates your continued support in helping to meet the water needs of the State.

The seven Colorado River Basin states have adopted, and the Environmental Protection Agency has approved, numeric water quality standards for Colorado River salinity and a plan of implementation for salinity control, in accordance with the Colorado River Basin Salinity Control Act and the Clean Water Act. The salinity control projects and activities authorized for the Department of the Interior by the 1974 Colorado River Basin Salinity Control Act and the 1984 amendments thereto are a major and integral part of the federal/state plan of implementation to control the river's salinity pollution. Any delay in implemen-

ting the schedule of salinity control measures outlined in the plan could result in the future violation of the state-adopted and Environmental Protection Agency-approved water quality standards for river salinity and in further salinity pollution of the river.

Of serious concern to the Palo Verde Irrigation District is the President's proposed $11.935 million 1990 Colorado River salinity pollution control funding for the Department of the Interior, which represents a 29 percent reduction from that appropriated in 1989. However, more importantly, this level of funding does not provide for the timely implementation of salinity control measures as set forth in the adopted and approved plan of implementation for maintaining the water quality standards for river salinity.

The Colorado River Board of California, the state agency charged with protecting the rights and interests of the State, its agencies, and citizens in the water and power resources of the Colorado River system, unanimously adopted at its March 15, 1989 meeting a resolution in support of a 1990 appropriation of $19.55 million for Colorado River Basin salinity control activities upstream of Imperial Dam for the Department of the Interior. This would include $1.20 million for plan formulation, $0.30 million for advance planning, and $18.05 million for construction. The Palo Verde Irrigation District is a represented agency on the Board and fully supports this recommended level of 1990 funding for Department of the Interior Colorado River Basin salinity control activities. This funding level has ben determined by the seven state Colorado River Basin Salinity Control Forum to be necessary, consistent with the state-adopted and federally-approved plan of implementation schedule, to maintain the water quality standards for river salinity and to prevent further salinity pollution of the river.

Of special note with respect to construction funding is the need for $5.0 million for the construction of the Lower Gunnison Salinity Control Unit - Winter Water Program in Colorado. The Winter Water Program for salinity control represents the most cost-effective measure in the plan of implementation for the Department of the Interior. In 1989, the Congress provided $250,000 for construction design in order for construction to commence in 1990. The President's proposed 1990 budget excludes construction monies for this important measure.

The Palo Verde Irrigation District appreciates your past and continued efforts in preserving the quality and quantity of the District's soles source of water, the Colorado River. Adequate Colorado River salinity pollution control funding in 1990 and beyond for the Department of the Interior will ensure the timely implementation of salinity pollution control measures, thereby preserving the quality of this vital resource.

STATEMENT OF THE CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

The Clark County Regional Flood Control District is thankful for the opportunity to offer this statement of need and request for funds to continue the general investigation work of the Secretary in Nevada for which this Committee has previously provided appropriations as authorized in P.L. 99-662.

The District respectfully asks that $300,000 be provided in FY1990 to complete a reconnaissance study of flooding and related water control problems in Nevada concentrated on sights along Duck Creek, including Blue Diamond Wash and Las Vegas Wash and Tributaries. This study would evaluate prior findings, particularly in view of significantly revised technical data to determine if there is a likely solution to the flood problem that is in the Federal interest.

This is a public safety and property protection project.

The Clark County Regional Flood Control District has been working with the Corps on a feasibility study of the entire Las Vegas Wash and Tributaries since 1985. The master plan area view is submitted in this testimony. The purpose of the Study is of course to determine if there is a "federal interest" in the construction of facilities to prevent the distructive flooding in the Las Vegas Valley.

The original budget for the feasibility study was however developed based on evaluating a much smaller flood problem. Unfortunately, the Corps has now found that with the remaining study funds, supplemented with some additional investigation funds in FY1990 and more cash from the local sponsor (the

District), there could be a completion of the detailed study of only one tributary. The District supported the Corps' proposal to proceed with an interim detailed study of the Flamingo Wash because the Flamingo Wash could be studied as a discreet element and based on the completed reconnaissance study, projects on the Flamingo Wash had the greatest likelihood of federal participation. The District hoped that by focusing on the Flamingo Wash, the interim study could be expedited so that the District could see some progress, in terms of obtaining federal funding, before itself being forced to commit any more money to Corps studies. To date the District has paid over $1.1 million to the Corps in cash and has contributed over $500,000 in in-kind services. As you know from your own experience it is difficult to justify spending millions of dollars on studies when the same money could have been used to construct actual projects. Yet we are trying to fit into the new cost sharing system initiated in PL 99-662 in 1986.

Mr. Chairman, the District understands that this project is an example of the flood control responsibility of the Secretary -- for which the Corps of Engineers has been incharged by the Congress. And, the District understands that PL 99-662 provides federal costsharing formulas for this kind of public safety project.

We are therefore concerned that study costs for this project keep going up while the study is continually limited in scope to a smaller and smaller portion of the public safety problem. This has nothing to do with inflation. We have made a significant contribution which now amounts to almost $2 million. That money could have constructed certain flood control facilities by now. Therefore, Mr. Chairman, the District hopes that the leadership of the Secretary can be applied here to fairly manage from an appropriations standpoint what is suppose to be a local and federal partnership.

I thank the Committee for this opportunity to come before you.

ADDITIONAL PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Senator REID. I understand from the staff that the subcommittee chairman normally keeps the hearing record open for 10 days to 2 weeks to receive statements regarding programs and projects related to the Energy and Water bill.

Those statements and communications received during that time will be incorporated in the record at this point.

[The statements follow:]

STATEMENT OF THE WEST BRANCH VALLEY FLOOD PROTECTION ASSOCIATION

I. Introduction and Summary.

The West Branch Valley Flood Protection Association is a bi-partisan, county-wide (Clinton County) organization with over 1,000 members, and many more thousands of County voters who support the Association's position. The Association is committed to preventing the construction of the proposed Lock Haven Flood Protection project (hereinafter "project" or "dike/levee"). The project, which is estimated to cost $77 million dollars (1987 figures), has highly adverse economic, social, and environmental impacts, and an actual cost-benefit ratio of substantially less than unity.

In 1987, the County of Clinton (pop. approx. 38,000), defeated this project in a non-binding referendum by a margin of better than 2 to 1. In the same election, in the City of Lock Haven ("city"), the primary site for the project, out of 1,400 voters, the referendum lost by only 200 votes. The voters of Clinton County recognize that the project will mean greatly increased flooding in surrounding townships and municipalities resulting in destruction of valuable farming and tourism resources and exorbitant cost and expense. These negative considerations substantially outweigh the project's alleged benefits to the city. See Parts II-VI, below.

In 1987, our Association was instrumental in the election of a city council member whose campaign was directed against the dike/levee project. In 1988, our Association was involved in supporting the defeat of a Republican candidate for State Assembly because of this issue. This was accomplished in a predominantly Republican community.

The city does not have the funding necessary to fulfill its local cost-sharing responsibilities for the project. As explained below, the state will not make up the shortfall in the local authority's funding responsibilities.

II. The City Lacks Financial Capability to Carry its Local Share of the Project Cost, and the Commonwealth of Pennsylvania Will Not Make up the Shortfall.

The local cost-sharing responsibility of the city is in excess of $18 million, which the city has attempted to obtain from the Commonwealth, inasmuch as the city is on record that it cannot afford to pay its (non-federal) share of the cost of the project.

Under Pennsylvania law and regulations, the Commonwealth of Pennsylvania may compensate a local authority sponsoring agency in flood control projects up to fifty percent of the cost of the project. Act of August 7, 1936 (First Ex. Sess.), P.L. 106, § 16, and AC § 1920-A(32 P.S. § 665; 71 P.S. § 510-20); Department of Environmental Resources (DER) Regulations, Subchapter C, §§ 103.41 and 103.42, appended. DER "has been designated by the Legislature as the Commonwealth agency, which shall participate with local sponsoring agencies in flood control projects." Regulation § 103.41 (a); see also § 103.41(b). The DER "normally will compensate the local sponsoring agency for up to 50% of its certified expenditures for land acquisition, relocation of facilities, and other related work in accordance with the agreement between the Department and the sponsoring agency." § 103.42(a).

In May, 1988, the City Council of Lock Haven agreed to limit the city's overall commitment to the project to not more that $1.5 million. (News article appended.) The city, however, has not identified the source of even that amount of limited funding. The

city made two requests from the Commonwealth for the project's local cost-sharing. One ("Woodward Township Flood Control Project") was for $2.85 million, of which $2.55 million was basic project allocation and $300,000 for design and contingencies. The other ("Lock Haven Flood Control Project") was for $15.565 million, of which $14.15 million was basic project allocation and $1.415 million was for design and contingencies. (See page 95 of House Bill 1743, Printer's No. 3837, appended.) The Pennsylvania House of Representatives refused the project funding request but the Senate approved it, and it was included in House Bill 1743.

In addition to the city attempting to set aside state law and regulation by seeking 100% funding for its local cost-sharing responsibility of the project, the city also included in their $18.415 million request from the state legislature funds for engineering and other fees which cannot be lawfully reimbursed under the Commonwealth's Regulation, § 103.42 (c).

On October 21, 1988, Governor Robert P. Casey signed House Bill 1743, "A SUPPLEMENT to the Act of July 3, 1987 (P.L. 190 No. 26), entitled "An act providing for the capital budget for the fiscal year 1987-88", which authorized a total of $2,416,988,000 for all projects contained in the bill. In signing the bill, the Governor advised the Legislature that the bill was excessive and that many of the items so authorized will not be undertaken. "At the present time the Commonwealth is limiting new construction in the category of Public Improvement Projects to a maximum of $120 million per year in order to maintain our bond rating and fiscal integrity. House Bill 1743 provides additional projects in this category in excess of $1.6 billion. Should such expenditures be undertaken, debt would have to be issued in such quantity that the Commonwealth would be hard pressed to meet interest requirements on the debt and meet other mandated needs of its citizens without increasing taxes which I will not support." (Emphasis added.)

Applicable to the project in question, the Governor pointed out that there were "a great many projects contained in House Bill 1743 which do not meet the capital project definitions as contained in the Capital Facilities Debt Enabling Act." For example, "4. Projects are included in this bill at full project cost which the Commonwealth, under various laws, is not authorized to pay. . . . In cases of Federal flood control projects the Commonwealth only provides 50% of the non-federal share of the projects. The local sponsor is responsible for the other half." The governor concluded by stating "while I have approved House Bill 1743 as it was presented to me, I must indicate that many of the projects added to the bill by the General Assembly will never be undertaken. Those projects which fall into one of the categories listed above will not be activated" (emphasis added). (Governor's statement appended.)

The city is also claiming credits for certain state funded projects toward its share of the cost of the proposed dike/levee. However, the credited projects were financed by the state which claims that it should be able to take credit for those projects. As a result, the eligibility of the city to claim these credits is currently being challenged in the state legislature.

II. Historical, Cultural and Economic Concerns and Objections to the Project Justify its Non-Funding.

In 1974, our city government rejected the proposed dike/levee because West Branch of the Susquehanna was an integral part of our community's heritage and to lose our ties to the river was repugnant to the community. Fifteen years later, a new city administration, in a community facing economic pressures, grasped

at the straw of the proposed Corps' project, in any form. The current proposed project is substantially inferior to that proposed fifteen years ago which itself proved to be infeasible. Nevertheless, in the face of Corps of Engineers' written disclaimers on the point, proponents argue that the project will bring jobs and resulting economic gains to our area. They have, in our view, attempted to mislead the Corps of Engineers' personnel responsible for preparing the General Design Memorandum (GDM) on information concerning the city's economic base. Initially, the project was proposed to protect Piper Aircraft Corporation and its premises. Piper has since moved to Florida, but it is still included along with many other now non-existent corporations and industries in the cost justification for the currently proposed project. Moreover, the currently proposed project would interfere with the use of the runway located on the Piper grounds, which runway is the primary asset of the site. All the buildings on the site are dilapidated and no industry has found yet that refurbishing the Piper complex would be cost effective with or without a dike/levee.

Furthermore, two prime industrial parks are located within the county at present, and neither one of them is located in the flood plain. Currently, local industrial development officials are having much difficulty in finding industries who want to occupy them. This is due in part to high area taxes. Ironically, if the dike/levee is constructed, the high taxes which currently keep industry away will soar even higher. Under these circumstances, the alleged benefits of protecting the Piper site is no justification whatsoever for the project.

III. The Project Would Result in Increased Taxes on a Decreasing Tax Base.

The economic issues of the project go much deeper, however. For example, the city is currently unable to maintain its existing assets, such as parks, roads, sewers, and fire fighting equipment without substantial aid from Community Development Block Grant funds (CDBG). The CDBG funds that currently go toward the maintenance of existing city assets are now being diverted to pay for studies and salaries (Robert Yowell, Executive Director of the Municipal Flood Authority) related to the proposed project. While the city has promised in its campaigns that taxes will not be raised to pay for the flood protection project, taxes are already being raised to pay for it -- in the form of monies needed to make up for the diverted CDBG funds.

The city is also providing misleading information such a grossly exaggerated Economic Development Zone (EDZ) which descr the jobs to be protected by the proposed dike/levee. Erroneo however, the EDZ map encompasses jobs currently in existence at Lock Haven University, Lock Haven Hospital, and several other industries and institutions that are not now and never have been located within the flood plain.

V. The Project Would Cause Increased Flooding Resulting in Great Economic Losses that are not Justified by the Project's Alleged Benefits.

The GDM does not address the issue of increased flooding in important neighboring communities along the West Branch of the Susquehanna and its tributaries, which would be devastating in some instances. These include:

1. Hogan Boulevard in Mill Hall: Many of the county's profitable business entities are located along this stretch of land, but construction of the proposed project would destroy many of them with increased flooding in that area.

2. The Great Island: Much of our county's prime farmland lies on a piece of land known as the Great Island, and the Great Island lies at the mouth of the project. Farming is our county's number one industry, bringing in 13.1 million dollars to our community in 1987. To endanger our community's primary industry to "protect" the 800 people in the city who voted for the project is not economically sound. In light of these factors, it is not surprising that the Pennsylvania Farmers Association, as well as the Conservation District, have gone on record in opposition to this project. These agencies appropriately have concluded, given the current drought situation particularly, that money to be spent of a dike/levee would be better spent on water conservation which would have far-reaching beneficial effects on farming, clean water (with ultimately beneficial impacts on the Chesapeake Bay, for instance), as well as on flooding itself.

3. Tourism: Tourism is the number two industry in our county and the primary attraction is the river and river-related activities. The project would have serious adverse impacts on the attractiveness and historical quality of the area and on this extremely important industry.

4. Adverse Impacts on Other Towns: Towns such as Jersey Shore, Pennsylvania, along the West Branch, are also opposed to the project as it would (a) result in increased flooding in their communities and the destruction of their community assets, and (b) preclude the use of federal and state funds to support the far-reaching flood protection measures they support, including the water conservation measures the farmers are interested in pursuing (see point 2 above).

The city has accepted a project design from the Army Corps of Engineers that encompasses major design changes to the project that further undermine its utility and increase its economic infeasibility. These design changes include the lowered height of the project, as well as the removal of four of the five pumping stations that were included in the original project.

VI. The Adverse Environmental Impacts of the Project are Severe and are not Justified in Light of the Project's Lack of Net Benefits.

The construction of the proposed dike/levee would destroy two major wetlands as well as much of the fish life in portions of the river and its tributaries. The wetland issues is currently being investigated by several major environmental groups. As stated above, the impacts on farming communities and tourism would be exceedingly destructive.

The effects of the project on the various toxic waste sites in the construction area have never been addressed in a manner satisfactory to the citizens in the county and surrounding, downstream communities. Potentially, these are highly severe environmental impacts which have not been adequately investigated.

Lock Haven University, finding it necessary to fund its own studies to determine adverse effects of the project, has now been advised that the project will increase "the depth of ponding [flooding]" of certain of its buildings and premises "as much as .8 feet in the frequency range 1.1 to 25-years [floods] above the 'no project' case." Report dated February 1, 1989, by David F. Kibler, Consulting Engineer, to the University's President, at 4. It may also be necessary to relocate the local YMCA.

In conclusion, for the reasons stated above, it is requested that the Committee not appropriate any funds for this project.

LETTER FROM J. DIXON EARLEY, P.E., CHIEF ENGINEER, RESOURCES MANAGEMENT

July 8, 1988

717/183-8796

Honorable Diann H. Stuempfle
Mayor, City of Lock Haven
20 East Church Street
Lock Haven, PA 17745

Dear Mayor Stuempfle:

In light of recent developments, the Department of Environmental Resources feels it is necessary to express its position on funding for the Lock Haven Flood Control Project. As you know, the federal government is willing to fund 75 percent of the total project cost. Twenty-five percent (25%) of the project is to be borne by non-federal sources.

Historically the Commonwealth has funded one-half of the non-federal cost. We have done this for several reasons. First, the regulations for the reimbursement of flood control projects state that 50 percent of the certified expenditures are normally reimbursed. Second, and more importantly, the long-term fiscal obligation for the Commonwealth will be extremely costly to the taxpayers.

Because of the long-range fiscal implications, the Department is opposed to any change in policy which would obligate the Commonwealth to more than 50 percent of the non-federal share for flood control projects. Presently, that long-range obligation is estimated to be an additional 50 million dollars for flood related projects already authorized.

Sincerely,

J. Dixon Earley, P.E.
Chief Engineer
Resources Management

LETTER FROM GOV. ROBERT P. CASEY OF PENNSYLVANIA

TO THE HONORABLE, THE HOUSE OF REPRESENTATIVES
OF THE COMMONWEALTH OF PENNSYLVANIA

I have the honor to inform you that I have this day approved and signed House Bill 1743, Printer's No. 3837, entitled "A SUPPLEMENT to the act of July 3, 1987 (P.L.190, No.26), entitled 'An act providing for the capital budget for the fiscal year 1987-1988,' itemizing public improvement projects, furniture and equipment projects, transportation assistance projects, and flood control projects to be constructed or acquired or assisted by the Department of General Services, the Department of Transportation or the Department of Environmental Resources, together with their estimated financial costs; authorizing the incurring of debt without the approval of the electors for the purpose of financing the projects to be constructed or acquired or assisted by the Department of General Services, the Department of Transportation or the Department of Environmental Resources; stating the estimated useful life of the projects; making appropriations; and making a repeal."

House Bill 1743, as passed by the General Assembly, authorizes a total of $2,416,988,000 for all projects contained in the bill. This bill comes only two years after the enactment of another capital project authorization bill which contained over $1.5 billion in projects. In addition to those projects, there is a sizable backlog of projects from previous capital budgets that have not been completed. It is not reasonable to expect that all of these projects can be undertaken. At the present time the Commonwealth is limiting new construction in the category of Public Improvement Projects to a maximum of $120 million per year in order to maintain our bond rating and fiscal integrity. House Bill 1743 provides additional projects in this category in excess of $1.6 billion. Should such expenditures be undertaken, debt would have to be issued in such quantity that the Commonwealth would be hard pressed to meet interest requirements on the debt and meet other mandated needs of its citizens without increasing taxes which I will not support.

In addition, there are a great many projects contained in House Bill 1743 which do not meet the capital project definitions as contained in the Capital Facilities Debt Enabling Act. For example:

1. Projects are included in the Public Improvement Project section which are below the minimum $100,000 requirement for bond funding. Projects are also included in the Redevelopment Assistance section which do not meet the minimum total cost of $5 million, or $1 million for financially disadvantaged municipalities, for that category.

2. Projects are included in inappropriate sections of the bill. For example, furniture and equipment projects are contained in the Public Improvement section which is limited to construction of projects. Furniture and equipment projects are in a separate section and are limited to original furniture and equipment for buildings constructed under the public Improvement category. Highway projects,

which are a separate category, are included in both the Public Improvement section and Transportation Assistance section. A separate bill for highway projects, House bill 1744, was passed by the General Assembly at the same time as this bill. Finally, projects which are not construction are included in the Public Improvement and Redevelopment Assistance sections. Redevelopment Assistance is limited to construction of facilities and cannot be used to provide such things as investment funds.

3. There are a number of projects contained in the Public Improvement section which are maintenance and repair projects. These projects are intended to maintain or restore existing assets to their original condition rather than make an improvement or betterment to it as required by the Capital Facilities Debt Enabling Act. Such projects do not qualify for bond funding. These types of projects are normally funded from the agency operating budgets.

4. Projects are included in this bill at full project cost which the Commonwealth, under various laws, is not authorized to pay. Mass transit assistance is limited by Act 101 of 1980 to one-sixth of the total project cost if the project has Federal funding. Where there is no Federal participation, the Commonwealth may provide up to 50% of the total cost. Redevelopment Assistance projects, under provisions of the Capital Facilities Debt Enabling Act, require 50% non State funding. In cases of Federal flood control projects, the Commonwealth only provides 50% of the non Federal share of the projects. The local sponsor is responsible for the other half.

5. There are a number of projects included in House Bill 1743 which are for local government or private entities for which the Commonwealth is not permitted by law to undertake. The majority of capital project categories are limited to State Owned facilities or properties. Special categories such as Redevelopment Assistance and Transportation Assistance may be used for non State owned projects.

While I have approved House Bill 1743 as it was presented to me, I must indicated that many of the projects added to the bill by the General Assembly will never be undertaken. Those projects which fall into one of the categories listed above will not be activated. Eligible projects will be considered based on the amount of bond funding which the Commonwealth can reasonably afford without a tax increase, and the status of the market at the time of anticipated bond sales.

Robert Casey

Robert P. Casey
Governor

STATEMENT OF DUCKS UNLIMITED, INC.

Ducks Unlimited is pleased to be able to offer these comments. Ducks Unlimited is a non-profit conservation organization dedicated to the protection and enhancement of wetlands and associated habitats for the benefit of North America's wild waterfowl. Ducks Unlimited members number over 550,000 nationwide, and in 1988 contributed nearly $60 million for the protection of waterfowl habitats. In over fifty-one years of operation, Ducks Unlimited has reserved and/or developed over five million acres of wetland and associated waterfowl habitat in Canada, the United States and Mexico.

The U.S. Army Corps of Engineers has requested $1.4 million appropriations to channelize a 7.2-mile stretch along the Obion River in west Tennessee as part of its West Tennessee Tributaries (WTT) project.

Ducks Unlimited opposes the use of these funds for channelization work in the WTT project area. Instead, we advocate the $1.4 million be appropriated to carry out the Stream Obstruction Removal Guidelines method on the Obion-Forked Deer River system and to complete the acquisition of 32,000 acres of previously authorized mitigation land for wildlife habitat destroyed by the WTT.

Channelization has been proven to be a destructive and unnecessary approach for river management. This is especially true in west Tennessee where highly erosive soils are pervasive. The Tennessee Department of Health and Environment has denied a Section 401 Water Quality Certification Permit for the same channelization work for which the Corps is requesting federal funding. This is due primarily to the excessive soil erosion and siltation that channelization would cause.

To date, over 90,000 acres of bottomland hardwood wetlands have been destroyed as a result of the WTT channelization project. Further channelization will drain additional wetlands that provide vital habitat for waterfowl and other wildlife. Providing federal funds for wetlands destruction runs contrary to the Administration's strong support of wetlands protection. And in these times of budget restrictions, it is irresponsible to waste federal funds on channelization when a less costly and more environmentally sound alternative is available.

The Stream Obstruction Removal Guidelines method is a viable and proven technique to restore normal flow to river systems. It can curb soil erosion, enhance wetlands and wildlife and still provide cost-effective flood control. Use of these guidelines in west Tennessee is supported by many federal and state agencies, including the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, the U.S. Geological Survey, the Tennessee Department of Health and Environment and the Tennessee Department of Conservation. Many landowners in the basin have already voiced their approval of this technique and their opposition to further channelization.

Wetlands along the Obion-Forked Deer River system are identified as priority habitat areas for waterfowl under the North American Waterfowl Management Plan, which is vigorously supported by the Administration. The Corps' proposed channelization project would

run contrary to the objectives of the Plan by endangering the remaining 70,000 acres of wetlands in the Obion-Forked Deer Basin.

Ducks Unlimited requests that the $1.4 million requested by the Corps for channelization be denied. Instead, this funding should be redirected for conducting Stream Obstruction Removal techniques in the basin and to complete purchase of mitigation lands already due the state.

If you require further information, we will be pleased to provide it to you. We appreciate the opportunity to express our views to you and your committee.

STATEMENT OF SIERRA CLUB, TENNESSEE CHAPTER

These comments are in regards to the U. S. Army Corps of Engineer's request for 1.4 million dollars for channelization work in West Tennessee.(Sidonia reach of the Obion River)
Here in West Tennessee we have seen our wetlands steadily disappear as our rivers are channelized and rechannelized by the U.S. Army Corps of Engineers. There is NO suitable place for channelization in Tennessee. The massive ecological destruction caused by wholesale river channelization is not worth the limited and debatable value.

River Channelization:
1. Increases erosion through increased water velocities in VERY erodable soils .
2. Decreases the shallow aquifer recharge.
3. Increases the danger of bridge failure. (see USGS reports)
4. Increases the loss of wetlands through drainage.
5. Decreases habitat for fish and aquatic life.
6. Decreases habitat for breeding and feeding waterfowl.

There is a better way. The U. S. Army Corps of Engineers should be mandated to us the Stream Obstruction Removal Guidelines or SORG . These guidelines will give the needed flood relief to existing farm lands while at the same time protect our nations wetlands and bridges. These guidelines would cost far **LESS** to implement and the remainder of the money could be spent on bridge stabilization on previously channelized rivers.

I would like to formally request that this letter be made part of the official hearing record.

STATEMENT OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

The Associated General Contractors of America represents more than 32,500 firms including 8,000 of America's leading construction companies. These general contractors employ more than 3,500,000 workers, and perform more than 80% of America's contract construction of commercial buildings, highways, industrial and municipal-utilities facilities.

The Water Resources Development Act of 1986 was the first omnibus water resources authorization bill enacted in seventeen years. The Act specified the maximum limits that could be appropriated for the Civil Works Program of the U.S. Army Corps of Engineers for fiscal years 1987-1991. AGC encourages Congress to provide appropriations to the fullest limit permitted by that Act in order to begin addressing in earnest the nation's water resources infrastructure needs and any adverse results created by drought. The construction program of the Bureau of Reclamation must also be provided with funding in excess of previous years to complete ongoing projects, in order to realize their benefits at an early date.

AGC recognizes that appropriating the necessary adequate federal funding considering the present deficit situation is difficult, but federal water programs, chiefly the Corps' Civil Works Program and the Bureau's construction program, have enhanced entire multi-state regions by providing flood protection, water transportation and recreational opportunities. Historically, irrigation and hydropower projects have stimulated the regional economies, by providing incentives for business and agricultural capital investment.

National security is another crucial, though infrequently-mentioned, aspect of the nation's water resources. Navigable channels, electricity for production and adequate supplies of water are vital to the country's defense.

Congress needs to assure its leadership in this area by ensuring that the federal water program is provided with adequate funds not only for fiscal 1990 but for the subsequent years as well.

The Administration's fiscal 1990 budget request for the Corps of Engineers' Civil Works Program is decreased by $67 million, from $3.248 billion in fiscal 1989 to $3.181 billion in fiscal 1990. The amount of appropriations, too, has been reduced over the last few years for the Construction, General Account and the Mississippi River and Tributaries Account. While the contributions to the Corps construction program made by the Trust Accounts cannot be discounted, Congress must continue providing an adequate level of appropriations from general revenue to ensure that the public's traditional and firm commitment to the Civil Works Program is not lost.

The Administration's fiscal 1990 budget request for the Bureau of Reclamation represents a significant decrease, $24 million, over that for fiscal 1989. AGC is concerned over this decrease since the demand for additional water supplies by the public in the regions served by the Bureau continues to grow.

Arid Southern California has the greatest concentration of water supply structures in the nation. The Southwest region has allocated more water from the Colorado River than normally flows down its valley, and its growing cities in the basin are constantly competing for the supply that it has to offer. More water supplies are needed, however. Additional impoundment reservoirs which could capture runoffs would greatly relieve the region's water quantity problems. Two highly beneficial water programs in the Southwest which deserve continued support by Congress are the Central Arizona Project (CAP) and Central Utah Project (CUP). These great engineering projects guarantee a balanced supply of quality water to the semi-arid lands that are in critical need of this resource.

Passage of adequate appropriations is another step in providing for adequate water resources for the balance of the century. Further sustenance of the nation's economic renewal is predicated on the nation's water resources infrastructure. Traditional water use and flood control projects, developed cooperatively by local, state and federal groups, are proven catalysts for national growth and expansion by providing nearly 60,000 jobs for every $1 billion in expenditure.

The Associated General Contractors of America urges Congress to continue to exert its leadership in water resources development. The nation can ill-afford any further federal deferral of needed maintenance or replacement of the nation's waterway structures.

AGC has presented statements to Congress over the past 16 years in regard to energy and energy-related issues. AGC is most proud to express its support for the necessary funding for full development of the Superconducting Super Collider. AGC supports funding for the Superconducting Super Collider provided that contracts for its construction be let by the Management and Operations (M&O) Contractor using the competitive sealed bid method with award to the lowest responsive and responsible bidder and provided that constraints are not established, nor requirements placed on the bidders, by the Department of Energy or its Management and Operations Contractor as to the bidders' labor policies. AGC encourages Congress to attached a provision to the funding for the Super Collider that will accomplish this.

AGC would be remiss if it did not call to Congress' attention a problem the magnitude of which has been increasing in recent years. The problem is the "alternative" procurement methods and procedures which have been advanced by some government agencies to address their procurement concerns. Chief among them is competitive negotiation. "Competitive" negotiation permits government contracting personnel to discuss or negotiate

with contractors after bids are submitted. There are no public openings of such bids, and the negotiations are between the government and individual contractors.

Such negotiations obviously permit the government greater flexibility in the final selection of contractors, because price factors need not be the sole basis of an award. Under "competitive" negotiations, awards can be based on "the best interests of the government." In this way, some agencies argue, there is a better chance of eliminating contractors who are "unqualified" or "likely to produce poor quality work".

The open competitive bid system has had a long and successful history of use in public construction. This selection system is particularly appropriate for public construction because it eliminates contract award based on favoritism, prevents fraud and assures that the best price is obtained. This system also ensures the preservation of the free enterprise system in which all business firms have an equal opportunity to compete for public contracts.

Alternative selection methods, such as "competitive" negotiation, are an attempt to find any easy solution to concerns that some have raised about open competitive bidding. However, "competitive" negotiation has serious shortcomings which makes its use highly undesirable for public construction. The value oriented, equitable and time proven public procurement system of open competitive bidding should not be eliminated but strengthened. AGC encourages Congress to add a provision to the funding for construction which is contained in the Energy and Water Development Appropriation to ensure that the sealed bid method is the sole method by which construction funded by this appropriation is procured.

America's infrastructure needs have been carefully documented by AGC and other organizations. Prompt attention to these needs will encourage a more reasonable balance between the twin objectives of stabilization of natural resources and

stimulation of economic growth. AGC encourages Congress to make this commitment through a well-funded and prudently procured program for the development of this nation's energy and water resources structures.

STATEMENT OF MANATEE, FL, CHAMBER OF COMMERCE

The Manatee Chamber of Commerce advocates your support in securing $6.6 million in federal dollars for the Manatee County, Florida Shore Protection Project. Currently, the State has included $4.6 million in this year's 1989 Fiscal Budget and Manatee was the first county in Florida to designate one penny of its resort tax funds to be used 100% for beach restoration.

Tourism is Manatee County's top industry. It provides approximately 10,000 jobs. Two-thirds of our visitors come here because of our beaches. Unfortunately, they are now being sold an inferior bill of goods since 5.59 miles of our beaches have been devastated from Hurricane Elena.

Other factors that we think are important reasons for federal assistance include:

* Tourism has become an increasingly competitive industry. We must remain afloat. The number of tourists over the last three years has leveled off considerably,

* The Anna Maria Island restoration project is Florida's Department of Natural Resources #1 beach priority in the State,

* State Road 789 serves as the sole evacuation route for the 15,000 residents of Anna Maria Island and North Longboat Key. Unless we protect this escape route future disasters will escalate.

* Of our 1.5 million yearly tourists, the top five states of origin include Michigan, Ohio, New York, Illinois in addition to Florida. Clearly, Manatee County's attraction as a tourist destination is nationwide in scope.

* Florida is "dead last" in receiving federal grants and aid according to Florida Taxwatch. We received $262.39 per person. That's less than any other state in the nation, despite the fact that Florida has been a relatively high supporter of the federal government, paying the 18th highest per-capita support of the government in taxes.

Again, we strongly urge your vote of approval for this beach restoration project and to provide for the federal 1989-90 appropriations as requested for all of those who enjoy our natural resources.

STATEMENT OF THE SIERRA CLUB, ARKANSAS CHAPTER

Subject: Ouachita-Black River Channel Realignment Phase Upper Ouachita River, Report to House Appropriations Subcommittee on Energy and Water Development, By Terry V. Ellen-Conservation Chair, Sierra Club-Ouachita River Basin Group representing the Arkansas State Chapter of the Sierra Club. April 5, 1989.

Proposed Action: Deauthorize Navigation Project on the Upper Ouachita River above Sterlington, La. Fund a study to be conducted by the U.S. Fish and Wildlife Service in conjunction with the Arkansas Department of Tourism and the Louisiana Department of Culture, Recreation, and Tourism to determine the most practical solution for economic gains in this region through development for tourism, recreation, and wildlife without the present mandated nine foot navigation channel.

The Arkansas State Chapter of the Sierra Club would like the Appropriations Subcommittee on Energy and Water Development to consider the following facts and recommendations before allowing any appropriations on the Ouachita-Black River Navigation Project, Channel Realignment Phase.

This phase of the project will remove 25 bends on the Upper Ouachita River between Sterlington, La. and Camden, Ar. The purpose is to allow for a four (4) barge tow to Crossett, Ar (pop. 6,706) and a two (2) barge tow to Camden, Ar. (pop. 15,356). According to a recent newspaper article, there was recently a four barge tow that already traversed this stretch of the river without the project. Higher water levels, no doubt, attributed to the success of this journey but water levels are naturally higher five (5) to six (6) months in every year. The total cost to complete this phase of the project is $15.8 million. We are not sure how much, if any, the Corp will be asking for in this session. The total cost thus far is $225 million. This includes locks and dams and other mitigation features outside of the reach of this phase of the project. Our annual cost for maintenance has been approximately $4 million. Upon completion of this phase of the project our annual charges are estimated to be $14 million.

Despite all of these costs, the Upper Ouachita River has had no significant usage in terms of navigation. The river has had a nine foot channel since 1985. Tonnages within the Felsenthal Pool have dropped from a mere 132,000 tons (132,472) in 1985 to an even less significant figure of 25,000 tons (24,859) in 1987. According to the Corps estimates in Design Memorandum 60 (DM 60) the entire channel was estimated to have 3 million tons shipped on it in the year 1985. Actual data from the Corps reveals that only 690,000 tons were shipped that year.

Even though barge traffic hasn't panned out, tourism, the second leading industry in Arkansas and Louisiana, has increased by $2.1 million from 1982 to 1987 in Union County alone. Much of this can be attributed to the Felsenthal National Wildlife Refuge (NWR).

There are three (3) refuges within the scope of this project: Felsenthal NWR comprising 65,000 acres, Beryl Anthony WMA comprising approximately 7,000 acres, and the Upper Ouachita NWR comprising approximately 24,000 acres. These refuges border each other and together encompass nearly 100,000 acres of prime

bottomland hardwoods. Felsenthal NWR alone is said to be the World's largest green tree reservoir. These refuges contain some of the most intact bottomland hardwoods in the South and are excellent choices for inclusion in the North American Waterfowl Management Plan (NAWMP). A parcel of land across the river from the Upper Ouachita NWR has already been purchased with public funds for inclusion in this plan. The Corps is going to make one of their largest bend cuts within this area. This is the first proposal ever to destroy habitat within the NAWMP.

George Bush wrote in a letter to Senator Ben Bagert, Jr. of Louisiana on October 28, 1988 the following:

> "I have pledged a new national goal: no net loss of wetlands. We have been losing wetlands at a rate of half million acres a year, and we must protect what remains."
>
> "I agree that wetland preservation is a priority and should enjoy the same level of importance as other responsibilities of the U.S. Army Corps of Engineers..."
>
> "...we need a unified national wetlands policy to identify priorities and concentrate resources on the most valuable areas."

We believe that the Upper Ouachita River is one of these "most valuable areas." The remaining bottomland hardwoods in this region should be preserved for wildlife not nonexistant barge traffic. Economic gains will be made through tourism not navigation. Tourists will want to see plenty of wildlife and natural beauty not mounds of dirt filled with dead timber. The Ouachita River was considered to be one of the ten most scenic rivers in the United States in the National Geographic Magazine in the early 1950's.

We have circulated petitions around the area and have 3,350 signatures from area residents opposing the bend cutting and widening project. There has also been two (2) unscientific telephone polls conducted in the area: one indicated that 89% of the people polled were against the bend cutting and widening project, the other poll indicated that 86% of the people who responded were against the bend cutting and widening project.

Let's deauthorize this project now for the portion of the river above Sterlington, La since it is hardly being utilized. Let's concentrate our efforts on saving these critical bottomland hardwoods for wildlife, recreation, tourism, and inclusion in the NAWMP.

We suggest that Congress fund a study to be conducted by the U.S. Fish and Wildlife Service in conjunction with the Arkansas Department of Tourism and the Louisiana Department of Culture, Recreation, and Tourism to prove that this solution would be the most beneficial, economically and environmentally, for one of the finest bottomland hardwood areas left on the face of this planet.

Other pertinent information related to this project:

1. The Felsenthal NWR manager currently has no control of the water level below 65 ft. msl (mean sea level) because of the mandated nine foot navigation channel. This control

is needed to further enhance the wildlife and fisheries benefits within this refuge. Currently, vegetation is taking over many of the fishing areas and the best method of controlling this is through lowering of the water levels.

2. Calion Lumber Company used to be the major user of the Upper Ouachita River in terms of navigation. Their president stated recently that they had sold their barge equipment citing that "it is no longer economically feasible to ship on the Ouachita River."

3. The Union County Port Authority did a study which indicated that it would be cheaper for their prospective customers to ship their goods on truck or rail to the Arkansas or Mississippi River and load on to their more efficient navigation systems. They elected not to build a port for Union County.

4. A group of economic experts were hired in Union County to determine what was the direction this region should go for economic development. When asked about the Navigation Project, they replied that they didn't believe that the navigation project would play a part in the economic growth of Union County.

5. The counties in Arkansas that are effected by the project have stated that they do not have the funds to buy the right of ways for this project. The State of Louisiana will also have a hard time coming up with their share of the monies. We see no need to rip up the Felsenthal NWR if there is a remote possibility that the other areas will not be done.

6. Ten thousand acres of bottomland hardwoods were lost in the Felsenthal NWR as a result of the mandated 9 foot channel.

7. A barge rammed two bridges in Monroe, La just last week. No major fatalities occurred. One of the two bridges is now out of commission until repairs can be made. What can we expect if the same thing occurs in the Felsenthal NWR and toxic chemicals are spilled into our refuge? Another National Disaster similar to what just occurred in the Arctic NWR?

8. It would be much cheaper to stop the project now than it would be to come back in a few years and try to repair the damages done. Congress needs to look no farther than the Kissimee River of Florida to verify this fact.

LETTER FROM GEORGE BUSH

October 20, 1988

Senator Ben Bagert, Jr.
Pan American Life Center
Suite 1851
601 Poydras
New Orleans, Louisiana 70130

Dear Senator Bagert:

I received the information you recently forwarded to me concerning wetland loss. Louisiana's coastal wetlands are one of the world's most productive ecosystems providing a vital habitat for fish and waterfowl. I share your concern about wetland erosion, and congratulate you on your hard work to increase both public and governmental awareness of this issue.

As you know, many agencies of the Federal government, in cooperation with states and the Conservation Foundation, are currently engaged in the National Wetlands Policy Forum, to formulate a new comprehensive national wetlands policy.

My own view is that wetlands are a tremendously valuable resource -- as a habitat for fish and waterfowl, as a flood control device, and as a natural filter which helps create clean water.

I have pledged a new national goal: no net loss of wetlands. We have been losing wetlands at a rate of half million acres a year, and we must protect what remains.

I believe this goal will be consistent with the work of the National Wetlands Policy Forum.

I agree that wetland preservation is a priority and should enjoy the same level of importance as other responsibilities of the U.S. Army Corps of Engineers, including navigation, flood control and irrigation.

You have suggested an aggressive program for the preservation and restoration of Louisiana's wetlands and one that I intend to see receives careful consideration. We need a unified national wetlands policy to identify priorities and concentrate resources on the most valuable areas.

Thank you for elevating the public's awareness of this issue. I look forward to working with you in developing a coordinated plan to preserve our coastal wetlands.

Sincerely,

George Bush

STATEMENT OF THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

SUMMARY RECOMMENDATIONS

O'Hare Reservoir - Chicagoland Underflow Plan	$1,500,000
(Clarification is required directing that the capacity of the reservoir be at least 1,050 acre-feet as authorized)	Construction
McCook and Thornton Reservoirs - Chicagoland Underflow Plan	$1,500,000
	Preconstruction Engineering and Design

On behalf of the Metropolitan Water Reclamation District of Greater Chicago, I want to thank the Subcommittee for this opportunity to present our priorities for Fiscal Year 1990, and at the same time express our appreciation for your support of the District's projects in years past. The District has two Corps of Engineers' priority projects, namely: the O'Hare Reservoir - of the Chicagoland Underflow Plan, and the McCook and Thornton Reservoirs - of the Chicagoland Underflow Plan for which we are requesting the Subcommittee's support for in its Energy and Water Development Appropriations Bill for FY 1990. The following outlines the projects and the need for the requested funding.

The O'Hare Reservoir - Chicagoland Underflow Plan

The O'Hare Reservoir of the Chicagoland Underflow Plan was fully authorized for construction in P.L. 99-662, the Water Resource Development Act of 1986. The authorization provides for the construction of a 1,050 acre-foot excavated floodwater storage reservoir. The reservoir would be located in the metropolitan Chicago area and would be interconnected to the existing O'Hare segment of the District's Tunnel and Reservoir Plan (TARP). The TARP plan came about in an effort to address the overwhelming water resources problem in the Chicagoland area, which was that the capacity of the rivers as drainage channels in the Chicago area had been over-taxed over the years and had become woefully inadequate, with its waters polluted by the discharge of

combined sewer overflows. To address the problem, after years of study by the District, the TARP Plan adopted in 1972 was found to be the most cost-effective and socially and environmentally acceptable alternative for reducing flooding and water pollution problems associated with combined sewer systems in the Chicago metropolitan area.

The Plan envisaged the construction of new rivers under the Chicago area rivers by the construction of deep tunnels, up to 35 feet in diameter and 300 feet below the surface. To provide an outlet for the new underground rivers, reservoirs were to be constructed at the end of the tunnel systems. Over 51 miles of tunnels have been constructed at a cost of $1.2 billion and have been operational since 1986. Another 14 miles of tunnels costing $0.3 billion are under construction. But the new underground rivers have no place to go when they fill up during rainstorms. The O'Hare and the Thornton and McCook projects provide the reservoir outlets for the new underground rivers and will be emptied after the rain. Without these outlets, the local drainage has nowhere to go when large storms hit the area, except back up and dump combined stormwater and sewage into homes and streets.

The O'Hare Reservoir is the first component of the Corps' reservoir program which is known as the Chicagoland Underflow Plan. Understanding the severity of the flood threat to the densely populated north-central Cook County area, Congress authorized the project to be built to at least 1,050 acre-feet in size in order to provide optimum cost-effective storage capacity for flood control purposes. Although this sizing issue is a matter of law, the Corps has also been considering a smaller reservoir. Therefore, this sizing issue needs clarification. However, Corps' preconstruction engineering and design activities which have been proceeding for several years will be completed shortly, clearing the way for the anticipated new construction start in FY'90. The District as the local sponsor is fully committed to the project, has purchased the necessary land at a cost of $4.2 million, and is prepared to meet its remaining cost sharing obligations as detailed in P.L. 99-662, the Water Resources Development Act of 1986.

Based on the present high flood risk and potential damage due to inadequate channel capacity, we, along with our supportive congressional delegation, are urgently requesting that the Subcommittee include $1.5 million in construction funds to

initiate construction on the O'Hare Reservoir Project in the FY'90 Energy and Water Development Appropriations Bill.

In addition, we are requesting that the Subcommittee include language in its bill which clarifies that the O'Hare Reservoir be built to at least 1,050 acre-feet in size, as Congress authorized, in order to provide optimum cost-effective storage capacity for flood control purposes.

Based on two successive Presidentially-declared disasters in our area in 1986 and again in 1987, we believe the probability of this type of flood emergency occurring before implementation of the critical flood prevention measures is quite high. As the public agency for the greater Chicagoland area responsible for water pollution control and, as the regional sponsor for flood control, we have an obligation to protect the health and safety of our citizens. We are asking your support in helping us achieve this necessary and important goal.

The McCook and Thornton Reservoirs - Chicagoland Underflow Plan

The McCook and Thornton Reservoirs of the Chicagoland Underflow Plan were fully authorized for construction in P.L. 100-676, the Water Resources Development Act of 1988. This flood protection plan is designed to reduce basement and street flooding due to sewer back-up, which is directly attributable to the inadequate capacity of the Chicago metropolitan area watercourses. This project, which contains the second and third elements of the Chicagoland Underflow Plan, and will be connected to the tunnel systems, consists of two reservoirs to be constructed in existing quarries at McCook and Thornton in west and south, respectively, suburban Chicago, Illinois.

The reservoirs will provide a storage capacity of 47,000 acre-feet (15 billion gallons) and will produce annual benefits of $75 million. The total potential benefits of the project are almost twice as much as the total cost.

This is very sound investment with a high rate of return, not to mention the enhancement of the quality of life, safety and peace of mind. The State has endorsed the project and urged its implementation. In professional circles, the project is hailed for its farsightedness, innovation and benefits.

We take particular pride in our contribution to the Thornton element of the project in which our staff saw reason to invest time and talent to review and evaluate the draft recommendations of the Corps of Engineers first released in February 1986. We are proud that our review and evaluation resulted in the formulation of proposals for design changes which produced $24 million in savings to the taxpayers at large. These changes involved coordination and consultation between four agencies at the federal, state and local levels, and were welcomed by the Corps and incorporated in the final report.

Given the broad sweep of our jurisdiction and the severity of the flooding in our area, the Corps felt compelled to develop a plan that was not only unique but sizable enough to accommodate our service area. With a combined sewer area of 375 square miles, consisting of the City of Chicago and 51 contiguous suburbs, there are 550,000 homes within our jurisdiction which are subject to flooding at any time. Of these, 185,000 homes flood on a regular basis because of inadequate conveyance and outlet capacity. The annual damages sustained exceed $140 million. If the project were in place, these damages could be reduced or eliminated. Furthermore, we should consider the safety and peace of mind of the two million people affected, and the disaster relief funds that could be saved.

In this case as well, the District as the local sponsor has authorized and is actively pursuing land acquisition and is fully prepared to meet its cost sharing obligations under P.L. 99-662. Indeed, substantial financial and other commitments have already been made, most specifically towards the acquisition of the land rights.

It is absolutely critical to the timely progress of the plan that the Corps' work in preconstruction engineering and design of the plan which has been proceeding for several years, be continued on schedule.

Given the importance of this plan to the greater Chicagoland area, we urgently request that $1.5 million be included in the FY'90 Energy and Water Development Appropriations Bill to continue the critical preconstruction engineering and design activities for the McCook and Thornton Reservoirs. As a measure of the widespread public support for these two critical projects and this necessary FY'90 federal funding, I have taken the

liberty of enclosing a recent Chicago Tribune editorial in support of these projects.

Again, we thank the Subcommittee for its support of our projects over the years and we thank you in advance for your consideration of our requests this year.

Chicago Tribune

Backing up on flood control plan

President Reagan's farewell budget threatens farewell to a vital part of the Metropolitan Water Reclamation District's pollution and flood control strategy for the Chicago area. Unless President Bush and Congress reverse course, that will be dreary news for the district and for anyone who endured the catastrophic rains and storm-and-sewage-inundated homes of the past few years.

It is a reminder once again that it is one thing for Congress to authorize funds, but quite another to appropriate them, especially when the President isn't asking. And it is a challenge to the Illinois congressional delegation to get this little oversight corrected, on behalf of the 52 communities and 500,000 homes at risk if nothing is done.

Congress last fall finally did authorize a $419 million concept essential to the district's clean water-dry basement mission—the construction of massive reservoirs in stone quarries in west suburban McCook and south suburban Thornton. But in President Reagan's last budget, there was not a penny to begin the work. Equally disturbing, there was not a penny to continue the work already underway at another reservoir planned near O'Hare Airport.

As governmental economy goes, that is goofy. Some $1.6 billion already has been spent building the district's Deep Tunnel system; hundreds of millions more will be spent before it is finished. As effectively as the tunnel system works, and will work when all its pieces are in place, that in effect still will be money down the drain if the job isn't done right.

Doing it right means connecting the tunnels to a series of reservoirs, because there is only so much sewage and stormwater the tunnels can handle before the stuff backs up into basements, floods low-lying areas or must be poured into places like Lake Michigan. Even the main, 31-mile tunnel from Wilmette to Hodgkins—with its 1-billion gallon capacity—is limited when it is up against nature most foul.

The planned McCook reservoir, with a capacity of more than 10 billion gallons, would take the overflow from the main tunnel and the Des Plaines River tunnel now under construction. The two-section Thornton reservoir would handle 4.8 billion gallons of polluted overflow from another tunnel under construction and 3.1 billion gallons of water from a separate flood control project in the Little Calumet River basin. The O'Hare reservoir would hold 330 million gallons. Combined, that is one huge, dirty drink, to be held for later sanitary treatment after the storms subside.

For all the eventual cost, the district is seeking only $3 million now, which makes the economy even goofier. Half would begin the design work on the McCook reservoir and half would finish the design work and launch construction of the O'Hare reservoir. The Thornton reservoir plan would wait because the accompanying tunnel is not yet far enough along. The money would go to the Army Corps of Engineers, which does the design work and oversees construction for the district and which already has shown the feasibility and cost-effectiveness of the projects.

While the money may be only peanuts, it is crucial to finish a job that has been started and get started on a job that can't be delayed into another year. Nature is not so patient and understanding about these things.

STATEMENT OF THE INTERSTATE CONFERENCE ON WATER POLICY

The Interstate Conference on Water Policy (ICWP) is the independent national association of state, interstate, and regional water administrators concerned with water quantity and quality management, conservation, and development. Since 1959, ICWP has been the voice for state water resource management concerns, particularly with regard to the relationship between state and federal programs, regulatory authority, and information exchange.

The Water Resources Development Act of 1986 provided the foundation for a revitalized civil works program in this country. ICWP is pleased that the FY 1990 budget proposal for the Corps of Engineers includes funds for a number of new starts, both for planning and construction. New starts are vital to the future viability of the civil works program.

ICWP has long been committed to a cooperative partnership approach to solving this nation's water resources problems. As such, ICWP played a key role in forging the consensus that was necessary regarding the scope of cost-sharing reform in the 1986 Water Resources Development Act. The FY 1990 budget for the Corps of Engineers includes a number of proposals which ICWP views as eroding the carefully crafted partnership agreements which serve as the foundation for the 1986 Act. Of particular concern are the proposals calling for cost-sharing of some technical services and cutbacks in maintenance of recreation facilities and small harbors. In addition, ICWP continues to be concerned about the lack of initiative with regard to authorized dam safety programs.

A. COST-SHARING FOR TECHNICAL SERVICES

The Reagan Administration's budget proposal includes $2.5 million for planning assistance to states (Section 22 studies) and $4.95 million for flood plain management services. This represents approximately a 50 percent cut from last year's budget. This decrease was accompanied by a proposal to cost-share these services with nonfederal sponsors on a 50/50 matching basis.

ICWP is deeply concerned about this proposal for a variety of reasons. Throughout its history, the Section 22 planning assistance program has yielded a wide variety of products that have been invaluable in supplementing the water resources management capability of the states. To a large degree, many of these efforts are already being conducted on a partnership basis. State resources are frequently devoted to these studies or data acquisition efforts by providing in-kind services including state staff support. In this way, Section 22 studies are not only already cost-shared, but they provide flexibility to respond to special needs. Requiring cost-sharing in the form of cash matches may very well destroy the utility of the program.

Congress recognized the value of the Section 22 planning assistance program when the authorized funding level for the program was raised from $4 million to $6 million in the Water Resources Development Act of 1986. The cost-sharing reforms of that Act were not applied to the Section 22 program. ICWP believes this was done for good reason and that cost-sharing principles should not now be extended to include Corps of Engineers technical services. Cost-sharing requires significant advance cooperative planning and scheduling of state fiscal resources. Requiring cost-sharing of Section 22 studies may thus eliminate the flexibility that is fundamental to this program. In the past, Section 22 authority has been used to respond to various emergency situations and special needs. These efforts can be and often are of a collaborative nature. However, cash match funding is simply inappropriate for these programs.

Secondly, many states utilize Section 22 planning assistance for reconnaissance level type studies. As provided in Section 905(b) of the Water Resources Development Act of 1986, reconnaissance level studies do not require nonfederal cost-sharing, but are conducted at full federal expense.

ICWP urges that the budget for planning assistance to states and flood plain management services be restored to the FY 1989 levels at a minimum and that the

Congress specifically direct the Corps to offer those services without requirement of nonfederal funding matches.

B. OPERATION AND MAINTENANCE CUTBACKS

The Corps of Engineers FY 1990 budget proposes cutbacks in the budget for operation and maintenance of both small harbors and recreation areas. With regard to small harbors, the Corps proposes eliminating maintenance of harbors with less than 25,000 tons of commerce. In FY 1990 this would affect 74 harbors in 23 states. In the future, this policy would affect an additional 578 projects in 34 states.

ICWP is deeply concerned not only about the potential effect of such a budget reduction, but about the criteria used as the foundation for this policy decision. It appears that the 25,000 ton limit is an arbitrary threshold which is not based on an evaluation of the relative benefits and costs of the affected projects. Federal budget reductions should be based on maintaining those projects with strong economic benefits. Furthermore, such an economic evaluation should include the economic benefits resulting from recreational use of these harbors. Many of these harbors subject to closure provide not only commercial navigation benefits but also recreational and commercial fishing benefits.

ICWP supports the restitution of maintenance funds for small harbors and navigation projects. After restoration of these funds in the FY 1990 budget, the Corps of Engineers should evaluate all navigation projects in partnership with state and local government project sponsors and users. Necessary budget reductions should be made on the basis of eliminating those projects with the weakest economic benefits first. State and local government should participate in identifying those projects most essential to the economy of the region where they are located.

When maintenance of projects must be eliminated from the federal budget, adequate time and notice should be provided to state and local government project sponsors and users to consider the possibility of taking over maintenance at the nonfederal level.

ICWP has similar concerns with regard to the proposal to close 25 percent of the recreation areas currently maintained by the Corps of Engineers. This would result in the total or partial closure of 426 recreation areas in 41 states. The identification of which recreation areas will be closed was made with no apparent consultation with state or local interests. This is particularly disturbing in light of the fact that state and local units of government are to be offered the "opportunity" to assume responsibility for the future maintenance of these projects. There is simply insufficient time for such transitions to take place. At a time when both the Corps and nonfederal interests have been working hard to make the new partnership philosophy of the 1986 Water Resources Development Act work to everyone's advantage, this unilateral decision process preempting state and local alternatives is particularly disappointing.

ICWP urges that funding be provided to continue the maintenance of recreation areas through FY 1990. If budget reductions are proposed in the future, the Corps of Engineers should consult with the affected state and local units of government to identify sites that could be closed, the economic impact of such closures, or alternative options for state, local, or user support for future maintenance.

C. DAM SAFETY

For the past two years ICWP has testified in support of funding for the dam safety programs authorized in Title XII of the Water Resources Development Act of 1986. To date, no funds have been appropriated for grants to states, training, or research. The budget proposal for FY 1990 still contains no funds to initiate these significant and potentially very useful programs for guaranteeing the safety and structural integrity of dams in this country. There are three components of the dam safety program of particular interest:

State Dam Safety Programs

The Corps of Engineers is authorized to provide grants to assist states in establishing and/or maintaining effective programs to ensure dam safety to protect human life and property. Significant state commitment is required as well because the state must provide funds for at least 50 percent of the program costs. A National Dam Safety Review Board is to be established to review and monitor the program.

In 1986, ICWP conducted a survey of state dam safety officials to identify state program needs to define the appropriate federal role in the area of dam safety. Financial need was overwhelmingly cited as the most urgent need in maintaining a viable state dam safety program. Thirty (30) of the 42 states responding to the survey rated the state grant program of P.L. 99-662 as "high priority."

The proposed FY 1990 budget for the Corps of Engineers includes no funding for grants to states for dam safety program support. ICWP urges that the full $13 million authorized for appropriation be provided including, if necessary, specific Congressional direction to the Secretary of the Army indicating the intended use of these funds and Congressional desire to have the Dam Safety Review Board established.

Training

The Corps of Engineers is also directed by P.L. 99-662 to provide training for state dam safety inspectors at the request of any state with an approved dam safety program. ICWP's 1986 survey of state dam safety officials verified the fact that this is a critically important need. When asked how federal assistance can most beneficially be channeled to states, 31 of the 42 responding states rated training as a #1 or #2 priority. Respondents also viewed the training assistance provisions of the Dam Safety Program in P.L. 99-662 as the most helpful to them, giving it an average rank of 1.7 on a scale of 1 to 5, with 1 being the highest score. Clearly, training is a critical need and one for which the states look anxiously to the federal government for assistance.

The proposed FY 1990 budget for the Corps of Engineers includes no funding for training of state dam safety inspectors. ICWP urges that the full $500,000 authorized for appropriation be provided and that the Secretary of the Army be directed to offer such assistance to qualifying states.

Research

The Corps of Engineers is further directed in P.L. 99-662 to undertake a program of research to develop improved techniques and equipment for rapid and effective dam inspection. This program was intended to closely complement the training efforts of state inspectors. All applicable technical advances need to be investigated for future effective dam safety inspection.

The proposed FY 1990 budget for the Corps of Engineers includes no funding for dam inspection research. ICWP urges that the full $2 million authorized for appropriation be provided and that the Secretary of the Army be directed to undertake the research program as authorized including opportunities for state participation.

STATEMENT OF THE SOUTHEASTERN POWER RESOURCES COMMITTEE, INC.

Mr. Chairman, this statement is submitted on behalf of the Southeastern Power Resources Committee, Inc. ("SEPRC"), a non-profit corporation whose members are rural electric cooperatives in the states of Georgia, Alabama, Mississippi and North and South Carolina. Members of the SEPRC purchase power from the Southeastern Power Administration ("SEPA") generated by the Georgia-Alabama system of projects. This power is vital to our members' ability to furnish electricity at the lowest reasonable cost now and in the future. We are concerned that the Army Corps of Engineers proposes to operate several of the Georgia-Alabama projects in a manner not authorized by Congress.

Specifically, at Buford Dam in Georgia the Corps has announced that it will maintain high lake levels this summer, presumably to benefit recreation -- a non-authorized project purpose. The maintenance of high lake levels will adversely affect hydropower generation at Lake Lanier and recreation downstream at the West Point project, both of which are project purposes specifically authorized by Congress. Similarly, the Corps' revised Savannah District Long-Range Drought Contingency Plan deems recreation a "priority" so as to support operational restrictions that benefit this non-authorized project purpose at the expense of authorized project purposes. In the case of hydropower alone, this could result in a significant loss of revenues to the Federal Treasury, a violation of existing contracts between the federal government and power consumers and a reduction in the stream flow to downstream users in Georgia and Alabama. Further, such a reallocation of the storage capacity of the conservation pool from hydropower generation to recreation represents a radical change in the operation of these projects without congressional authorization.

The Georgia-Alabama system of projects, like all federal multi-purpose water resource projects, exist by virtue of congressional authorizations, which establish "project purposes" that govern the uses of the projects. These project purposes served as the basis for the projects' repayment schedules, with benefits and costs assigned to particular project purposes. The importance of these authorized project purposes is underscored in a June 1988 report by the General Accounting Office, "Water Resources Issues Concerning the Arkansas River Basin Operation Plan." As the GAO concluded in that report, the Corps of Engineers is not free to manage federal water resources projects so as to attain non-authorized purposes to the detriment of the congressionally-authorized purposes of the projects. The Corps cannot disregard the limits placed on its operational discretion by a project's congressional authorization.

Buford Dam and several of the Savannah projects (Hartwell and Thurmond) were authorized for hydropower generation, flood control and navigation. The cost-benefit analyses, which justified the projects, focused on these three purposes, with the preponderance of benefits to flow from hydropower generation. The Corps' reallocation of the storage pool to recreational use is hopelessly inconsistent with the projects' authorizations.

Because federal hydropower is such an essential part of our system and the availability of federal capacity is such an integral part of our long-term power supply plans, we wanted to communicate our concern regarding the Corps' operation of the Georgia-Alabama system to you. In addition, we would like to repeat our willingness to support legislation that provides reallocation with appropriate compensation to assure that both taxpayers and ratepayers are kept whole.

On a related matter, we are also concerned about two proposals in President Bush's 1990 budget -- the proposed "reform" of repayments for federal hydroelectric power project costs and the sale of Power Marketing Administration ("PMA") assets. These unjustified proposals, which have repeatedly been rejected by Congress in the past, could lead to significant rate increases for the ratepayers that members of SEPRC serve. We urge you and the other members of the Subcommittee on Energy and Water Development to continue to oppose these provisions.

STATEMENT OF THE TENNESSEE ENVIRONMENTAL COUNCIL

This letter is to provide you with our comments concerning the Corps of Engineers' request for $1.4 million appropriations for channelization on the West Tennessee Tributaries (WTT) project.

We are the Tennessee Environmental Council (TEC), a coalition of 49 conservation groups representing approximately 20,000 citizens, and 1,500 individual members, many of whom are scientists and professional conservationists. We respectfully urge the Congress NOT to appropriate ANY funds for channelization within the auspices of the WTT project. There is much information currently available in government documents and scientific studies which proves that channelization, in the highly erosive soils of West Tennessee, is an environmentally unsound endeavor. Numerous long-term problems have been caused by the Corps previous channelization efforts. (You might consider appropriating the above mentioned funds to cure these problems.) We will gladly furnish the aforementioned information should you so request.

While the Tennessee Environmental Council urges no funding for more expensive and destructive channelization, we realize that some problems do exist which need correction. We have determined that the "Stream Obstruction Removal Guidelines" (SORG) should be the only method used to correct river-related problems in West Tennessee. These environmentally-sensitive guidelines will provide the needed flood relief to existing farmlands, while protecting wetlands, water quality, bottomland forest and farmland, fish and wildlife.

The Council urges Congress to designate that any future funding for the WTT project be tied to the use of SORG. The Corps has already analyzed a similar alternative known as "stream cleanout". This analysis can be found in the WTT project's Environmental Impact Statement. This "stream cleanout" alternative was found to have a 1.3 benefit to cost ratio. By substituting SORG for channelization procedures in the WTT project, with other project features remaining as they are, approximately $90 million of US taxpayer funds would be saved!

We formally request that this letter be made a part of the official hearing record.

STATEMENT OF THE CLARK COUNTY, NV, BOARD OF COMMISSIONERS

INTRODUCTION

My name is Commissioner Bruce Woodbury and I am Chairman of the Board of County Commissioners of Clark County, Nevada. I appreciate the opportunity to provide testimony to the Senate Appropriations Subcommittee on Energy and Water Development, on the subject of appropriations to the Department of Energy, especially as they relate to the proposed Yucca Mountain nuclear waste repository program and local government involvement. Clark County supports the Department of Energy request for $7 million in funds for affected units of local government.

BACKGROUND

Clark County, Nevada, for your information, has approximately 700,000 people, includes the City of Las Vegas, and is located some 100 miles south of the proposed repository site at Yucca Mountain. Our major concerns with regard to the repository are directed toward the transportation of the radioactive waste as well as a number of socioeconomic questions. The Clark County Board of Commissioners is on record as opposing the siting of a repository in Nevada. As a local government, we need to be certain, however, that potential impacts are addressed.

The 100 mile distance between Las Vegas and the proposed site noted is somewhat deceptive. Because of its rugged geographical setting, there are relatively limited transportation routes in Nevada. If Yucca Mountain is selected, therefore, the potential exists for the vast majority of nuclear waste shipments to traverse the Las Vegas metropolitan area. The fact that Las Vegas does not have an extensive network of limited access highways, likewise, means that the shipments, given the current road system and using Department of Transportation regulations, are slated to be transported through the most densely populated part of Clark County with

thousands of local residents and tourists. Also, because Las Vegas is a twenty-four hour town, variations in traffic flow are often less dramatic than in other metropolitan areas, which could exacerbate potential problems from shipments through the center of the city. Transportation impacts are, therefore, potentially significant in Clark County.

Other impacts to Las Vegas and Clark County relate to the influx of thousands of workers and their families that will result from the program. Current trends in Nevada Test Site employment, coupled with the potential long time frame of the Yucca Mountain program, provide strong evidence that a large percentage of the workers and their families will reside in the Las Vegas metropolitan area. This will result in the need for additional services to meet the needs of the new residents. Socioeconomic impacts could also be considerable in several rural Clark County communities to the north of Las Vegas and closer to the repository (Indian Springs, as an example).

CLARK COUNTY AND AFFECTED LOCAL GOVERNMENT STATUS

Under the provisions of the Nuclear Waste Policy Amendments Act, enacted in December 1987, Clark County along with Nye County (the site county), and Lincoln County were named as "affected units of local government." Affected local government status was a recognition by DOE and Congress that certain local governments could be adversely impacted by the siting of a repository at Yucca Mountain.

POTENTIAL IMPACTS TO LOCAL GOVERNMENTS

As an "affected unit of local government", Clark County is eligible for funding to perform studies to determine the impacts of a repository on our community. Clark County received a grant from DOE for FY 1989 and has recently submitted a grant application for FY 1990. The funding will assist the County in determining the mitigation requirements needed to ameliorate any effects from a repository.

The objective of the subcommittee today is to evaluate DOE's budget request for FY 1990. Among your considerations are funds to be appropriated for the Yucca Mountain repository program. My testimony will address funding requirements for local governments concerning the program. Continued funding within the DOE budget is important to local governments, including Clark County, for the following reasons:

1. A project of this magnitude and potential risk to the public has never been attempted before. The need to accurately define potential impacts, therefore, is important. Governments adjacent to the proposed repository will ultimately be faced with resolving the problems associated with a repository. The potential criticality of the issues, notably with regard to transportation, makes it important that local governments are able to independently conduct programs that may affect their citizens.

2. Clark County (as well as Nye and Lincoln) has a responsibility to its citizens to quantify potential impacts from a repository. We cannot assume that there will be no impacts. Our responsibilities as elected officials require that we evaluate the effect of a potential repository to our community.

3. For a number of years Clark County has worked well within the State system of grants and impact assessment work. As we get nearer to site characterization, however, it has become apparent that potential impact priorities are different between the state and local governments. There is need, therefore, for local communities, who will be on the "front-line" if a repository is selected at Yucca Mountain, to be able to determine and implement their own study priorities. (We do also feel, however, that the State of Nevada has legitimate study requests which should be funded.)

4. Considerable lead time is needed on major projects to ameliorate potential adverse impacts. Although the Yucca Mountain repository is

not scheduled to begin acceptance of waste for a number of years, there is a need to ensure that negative influences are resolved before the services are needed and the problems occur. There are too many examples of government-sponsored projects that have resulted in severe community disruptions because of inadequate consideration of impacts. The NWPAA has been wisely crafted to enable impacts to be anticipated and resolved.

5. Technical studies on the site are properly given strong emphasis in the program. There is need to ensure, however, that the off-site, "people-related" impacts are not forgotten. Because of the potential risk to the public of items such as waste containment casks that are manufactured and transported by workers prone to error, the people-related impacts are equally important and need to be evaluated.

6. The size and risk of the project presents some danger to the economy of Las Vegas. Since Las Vegas has a tourist-based economy, competitive with other tourist areas, the potential risks to our economy from the repository and associated issues must be evaluated. It is important though for local governments to be able to evaluate impacts to their own economies.

Nevada's local governments, therefore, are hopeful that the Subcommittee on Energy and Water Development will consider the impacts to local governments and retain the proposed Department of Energy funding requests for affected governments in Nevada.

THE NUCLEAR WASTE POLICY AMENDMENTS ACT OF 1987 (NWPAA)

There are, of course, a number of controversial sections in the NWPAA. There is obviously concern in Nevada that the repository selection process, originally envisioned as evaluating a number of sites and selecting the most suitable, has been discarded. The citizens of Nevada feel that the selection of Yucca Mountain as the sole site to be characterized without evaluating other potentially viable sites is unfair.

The NWPAA, however, is now consistent with other federal programs (the Clean Air and Water Acts, as examples), in recognizing the need for providing strong affected local involvement. We feel that this is a significant addition to the original Nuclear Waste Policy Act. Having the financial resources to meet these responsibilities, therefore, is important. Local funding is an important element, therefore, that should be continued.

SUMMARY

To summarize, we would like to thank the Senate Subcommittee on Energy and Water Development for the opportunity to provide our thoughts at this important hearing. The implementation of the Nuclear Waste Program has obviously faced a series of challenges over the past seven years. We are hopeful that the recent change in leadership at DOE will reinforce the need to ensure that the site characterization process utilized to analyze Yucca Mountain (or any other site) is performed in a safe and scientifically defensible manner.

It should be remembered that the decisions being made on Yucca Mountain will affect people, and in the case of Las Vegas, a currently strong, viable economy. The public, especially those residing and working adjacent to the site as well as those experiencing potential risk from the transport of the material, should be ensured that the program offers no risk to the community. These citizens and governments should also continue to be provided with the resources to ensure that any impacts to their communities are determined and resolved.

We are hopeful that the testimony will assist the Senate Subcommittee on Energy and Water Development Committee in its evaluation of the DOE budget. Should you desire additional information about Clark County's program or needs, do not hesitate to call me at (702) 455-3500 or Dennis Bechtel of my staff at (702) 455-4181.

Thank you again.

STATEMENT OF THE NATIONAL EMERGENCY MANAGEMENT ASSOCIATION

As Director of the North Carolina Division of Emergency Management and President of the National Emergency Management Association (NEMA), a critical matter has recently been brought to my attention. This matter concerns the proposed budget reduction in Fiscal Year 1990 of the U.S. Army Corps of Engineers Flood Plain Management Services (FPMS) Program. I would like to share some background information with you and then outline the impact this budget reduction will have.

Nationwide, Emergency Management agencies must be prepared to deal with a wide variety of natural and technological (man-made) emergency situations. On a daily basis, emergency preparedness officials must be ready for anything from an oil spill, a power outage, or a tornado to a nuclear accident, an earthquake, or a killer hurricane. I plan to limit my discussion to hurricanes, which probably have the potential to cause the greatest loss of life, personal injury, and property damage of any single natural event in this country.

Coastal states from Hawaii to Maine are threatened by hurricanes. Millions of people and hundreds of billions of dollars of development are located in areas vulnerable to hurricane floods and winds. In June 1969, an extremely strong hurricane called "Camille" struck the Mississippi coast near Bay Saint Louis. With wind gusts exceeding 200 mph and peak tidal surges of around 20 feet, this was the strongest, most severe hurricane to strike the mainland United States in this century. If a Camille-type storm were to strike one of our large Gulf Coast or Atlantic Coast cities today, it could easily cause damages in the billions of dollars and threaten the safety of a million or more people. Unfortunately, one of these killer storms may sooner or later strike one of our intensely developed coastal areas. For example, only this past summer Hurricane Gilbert could have easily moved north of the Yucatan Peninsula and hit one of our large Gulf Coast communities with the same intensity that devastated Cancun. Continuing population growth and development in coastal areas make the probability of major hurricane disasters more likely with each passing year. Rising sea level is expected to accelerate this problem in many parts of the country.

In the 20th Century, advances in technology have greatly improved our ability to forecast hurricane movements, provide timely warnings, and communicate with the public. These and other factors have steadily reduced the annual hurricane related fatality and injury rates for the United States. Unfortunately, very little additional improvement is expected in these areas in the immediate future. The ever increasing coastal population and rising sea levels may soon cause a reversal in the trend toward declining fatalities and injuries. This emphasizes the critical need for better hurricane preparedness plans for all coastal communities.

Preparing for hurricanes is a complex undertaking involving technical, social, administrative, and political issues that are interwoven through a multitude of public and private sectors. It is difficult for any single agency, either local, state, or Federal, to have the capability to conduct

comprehensive hurricane preparedness plans single-handed. As a result, a coalition of Federal, state, local, and sometimes private agencies have come together in the last few years to prepare hurricane preparedness plans for most of our coastal states. Although funds have been limited and progress slower than we would like, the results to date have been outstanding. Comprehensive studies have either been completed, are underway, or scheduled for almost all developed coastal areas subject to hurricane flooding. For the first time, we believe that Emergency Management officials will have access to the information and assistance needed to develop rational plans for hurricane emergencies. These plans will be a big step in protecting our growing coastal population from future disasters.

The Federal Emergency Management Agency, the National Hurricane Center (NOAA), the National Weather Service (NOAA), the Office of Coastal Zone Management (NOAA), and the U.S. Army Corps of Engineers have worked very effectively together to make this coalition operate smoothly. Each of these agencies has expertise and limited funds that are combined with state and local resources to produce workable hurricane preparedness plans. We think the continuation of this cooperative effort is absolutely essential if the residents of our coastal communities are to be furnished a fair opportunity to seek shelter and protection during severe hurricanes. Unfortunately, the Corps of Engineers, one of the chief players in this coalition, has reduced their FY '90 budget for this type of work as part of their Flood Plain Management Services (FPMS) under their General Investigation program. In FY '90, they plan to cost-share all FPMS activities on a fifty-fifty basis with non-Federal sponsors and have reduced their FPMS budget from $10.0 million (FY 89) to $5.0 million in FY '90. This was done without consulting the states and without giving state and local agencies time to adjust their budgets or make other arrangements for this important work.

We do not agree to the proposed cost-sharing of the Corps' FPMS funds used for hurricane preparedness planning. These activities are conducted jointly by several Federal, State, local, and sometimes private interest and are already cost-shared. In most cases, the non-Federal agencies are already contributing at least fifty percent of the total cost when in-kind effort is considered. In addition, the Corps of Engineers usually serves as overall study manager and most of their funding goes to that purpose. If cost-sharing is adopted suddenly, as proposed in the FY'90 Budget, the local sponsors will not be able to contribute, the Corps will not be able to fulfill its study manager role, and most ongoing studies will be delayed by one to two years. Studies not yet initiated could be delayed even longer or postponed indefinitely.

As spokesman for the National Emergency Management Association, I urge you to restore the Corps' FY '90 FPMS program to its FY '89 level of $10.0 million.

STATEMENT OF THE NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

Mr. Chairman, my name is Morgan Dubrow, Chief Engineer of the National Rural Electric Cooperative Association (NRECA). NRECA is the national association of over 1000 rural cooperatives which supply central station electricity to over 26 million people in the rural areas of 46 states. NRECA thanks this Subcommittee for its leadership and the Congress for blocking the sale of transmission systems and for insisting that PMA rates be based on capital cost and interest rates that prevailed when the projects were authorized.

NRECA supports the F.Y. 1989 budget request for the Corps of Engineers, the Bureau of Reclamation, the Department of Energy's PMAs, and other DOE energy programs, including nuclear projects. NRECA emphasizes the need for:

- Funds for continuing 132 construction projects and 10 new starts by the Corps of Engineers.
- $36.0 million for the Central Valley Project, California.
- $24.0 million for the Richard B. Russell Dam, Georgia-South Carolina.
- $39.4 million for Garrison Irrigation Project, North Dakota.
- $3.9 million for Harry S. Truman Dam and Reservoir, Missouri.
- $218.5 million for Central Arizona Project, Arizona.
- $135.5 million for the Central Utah Project, Utah.
- $10.4 million for the Animas La Plata Project, Colorado.
- $61.3 million for Columbia Basin, Chief Joseph and Bonneville Projects.
- $23.0 million for the North Loup Division, Missouri Basin Project, Nebraska.
- $4.2 million for Atmospheric Water Resources Management.
- $41.2 million for the Dolores Projects.
- $12.0 million for Boulder Dam Project, Arizona-Nevada.
- $232.3 million for the operation and maintenance for the Bureau of Reclamation.
- $604.0 million for the 5 Power Marketing Administrations.
- $836.0 million for nuclear programs.
- Additional funding of $40 million for Advanced Light Water and $20 million for high temperature gas reactors.
- $1.2 billion advance appropriation for Clean Coal Technology in F.Y. 1991 and 1992.

At our 47th annual Meeting in Washington, D.C. in February 1989, our members again unanimously passed resolutions supporting appropriations for water resource and hydroelectric projects throughout the United States.

Opposition to Sale of Power Marketing Administrations

NRECA strongly opposes the sale of any of the 5 Power Marketing Administrations. We strongly oppose the President's 1990 legislative proposal to sell the Alaska Power Administration and any request for funds to study the sale of the Southeastern Power Administration. The nation's rural electric cooperatives 650 of whom purchase and are dependent on obtaining this power at cost to remain competitive, and support the debt-burdened rural economy. Legislative proposals of the Bush Administration would increase average rates by 57% in Western (WAPA), 40% in the Pacific Northwest (BPA), 75% in the Southwest (SWPA), 60% in the Southeast (SEPA) and 227% in Alaska (APA).

Construction for the Bureau of Reclamation

The Administration has recommended funding for the Bureau of Reclamation construction program of $644.3 million which will permit the timely completion of the bulk of reclamation ongoing construction program. Unfortunately, this does not include $63 million of additional funds needed for North Loup in Nebraska, Animas La Plata in Colorado, New Mexico and Garrison in North Dakota. We do not believe that these 3 projects can be fully funded within the President's request without adversely impacting scheduled work and contract awards on Reclamation's ongoing program. Also we strongly support the $49.0 million for the Safety of Dams program.

New Construction for the Corps of Engineers

We strongly support the 10 new starts and continuation of the 132 construction projects in the Corps of Engineers' budget request.

Central Valley Project

We support the appropriation of $36.0 million in F.Y. 1989 for the Central Valley Project. The Auburn-Folsom South Dam has a potential of 300 MW of hydroelectric power, with the possibility of an additional 400 MN for pumpback units. We support the Bureau of Reclamation's efforts in working with the American River Authority that proposes a $700 million bond issue to pay half the cost to build this much needed multi-purpose project.

Richard B. Russell Dam

Funds in the amount of $24.0 million are needed in F.Y. 1989 for continued construction of the Richard B. Russell Dam Project on the Savannah River between Georgia and South Carolina. It will provide 600 MW of needed hydroelectric power, 300 MW base load and 300 MW of pumpback power.

Garrison Irrigation Project

We support funds in the amount of $39.4 million in F.Y. 1990 for continued construction of New Rockford Canal Reach 2, and recreation facilities throughout the project. This also permits the continuation of the municipal, rural and industrial water supply programs in cooperation with the state and the Conservancy District and the construction of Indian irrigation facilities.

Harry S. Truman Dam and Reservoir

We support the appropriation request for $3.9 million in F.Y. 1990 to continue construction at the Harry S. Truman Dam and Reservoir and urge the use of the full hydro potential at the project.

Central Arizona Project

We urge the Subcommittee to appropriate $218.5 million required in F.Y. 1990 to continue construction of the Central Arizona Project which is vital for the water supply to Phoenix and Tucson, Arizona.

Animas La Plata Project

We request $10.4 million in F.Y. 1990 to enable the Bureau of Reclamation to collect data for final designs, purchase of land cultural resource surveys and excavations and utility relocation for this project which was authorized some 20 years ago. This project is needed to provide potable water to the Ute Tribes. Building the project would implement the agreement between the Indians, the Federal Government and the States of Colorado and New Mexico to settle long-standing water rights. Further, 38 percent of the project is to be cost-shared by non-federal interests. NRECA again recognizes the dire need for the project. We urge that it be repaid over a 50-year period, as are other Colorado River Storage projects. There is an urgency to begin construction now in order that the Bureau can meet the completion date stipulated in the Act to deliver water by the year 2002.

Central Utah Project

We request support of the $135.5 million F.Y. 1990 budget request for the Bonneville Unit of the Central Utah Project. Most of these funds will be used for work on highway relocations, land acquisition, construction of Stage II of the Jordanelle Dam and Reservoir, and work on the Synar Tunnel of the Diamond Fork Power System.

Columbia Basin and Other Pacific Northwest Projects

We support F.Y. 1990 appropriations of $16.3 million for the Bureau of Reclamation for the Columbia Basin Project, including continued drainage work of Grand Coulee modifications for fire protection; and funding to complete work on the machine ship and engineering building; $7.0 million for Chief Joseph Power Plant; and $4.8 million for the Second Power Plant and $34.0 million for the lock at Bonneville Dam.

Atmospheric Water Resources Management

We recommend that the F.Y. 1990 appropriations include $4.2 million to cloud seeding technology being developed by the Bureau of Reclamation in collaboration with local interests to increase water supplies and hydroelectric generation. Additional Federal funding of $1.189 million would be used to match local funding. $1.084 million would be used to match Arizona funds. These funds would enable the Bureau to prepare a project design, conduct radar and airborne cloud measurements, establish and operate a precipitation and wind measurement network, initiate seeding activities, and begin environmental and economic studies in Arizona. $105,000 would be used to match Utah ($75,000) and Wyoming ($30,000) funds. These funds would be used to improve project capabilities provide improved instrumentation and seeding systems, and techniques.

Dolores Project, Colorado

We support the appropriation of $41.2 million for the Dolores Project. These funds will be used to begin work on the Towaoc Canal REACH, the Towaoc Power Plant and the penstock for the McPhhee Dam and Power Plant, the Dove Creek Pumping Plant -- Cross Canyon -- and Mohomont Creek Laterals and Dove Creek substation distribution lines.

North Loup Division, Missouri River Basin Project, Nebraska

The Bureau of Reclamation needs $23 millions to continue construction of Davis Creek Dam and for award for a contract or the Fullerton-Elba system and to initiate right of way acquisition and design of the Fullerton 2 and 3 systems.

We urge the Subcommittee to add the $17.0 million which could be utilized to carry on the continued construction of Davis Creek Dam. It would be a waste of tax payers funds to fail to complete the construction of this key facility -- only one half of which is completed.

Boulder Dam Project

We urge the appropriation of $12.0 million in F.Y. 1990 to complete work to make Boulder Dam safe for visitors. Funds would be used to complete work on the elevator shaft, visitor tour galleries and roadway realignment These funds would provide for initiation of construction of the multistorage parking structure and visitors tour center. The importance of this work is emphasized by the report that early in March a man scaling the sloping wall of the parking lot slipped and fell onto the roadway. He was run over by the rear wheels of a large truck, was flown to a hospital and remains in serous condition.

Bureau of Reclamation O&M Budget

We support an increase to $232.3 million for the Bureau of Reclamation's O&M budget. An adequate operation and maintenance of projects remain a matter of the highest priority in order to meet contractual commitments for delivering water and power benefits to consumers.

We strongly support the Secretary of the Interior request for the establishment of a revolving fund which would take care of the Bureau of Reclamation O&M program for future years. This fund would provide the flexibility and financial certainty needed for the efficient operation of a business-like O&M program which is financed by the users, while at the same time assuring continued operational readiness and dependability of the Bureau's water and power systems which are the foundation of continued economic stability and social well-being of the Bureau of Reclamation service areas.

Federal Power Marketing Agencies

NRECA supports the $604 million for F.Y. 1990 appropriation request for federal power marketing agencies. The F.Y. 1990 requests by agencies are: $315 million for the Western Area Power Administration, $42.0 million for the Southeastern Power Administration, $34.0 million for the Southwestern Power Administration, and $3.0 million for the Alaska Power Administration. We also support the Bonneville Power Administration's (BPA) $219.0 million budget funded through its self-financing revolving fund procedures.

We support the third 500-kV line for BPA. If construction on this 500-kV line does not begin in 1989, we support the continuance of the necessary borrowing authority in F.Y. 1990.

Nuclear Programs

Our association has resolutions supporting nuclear power and nuclear research programs. We request the Subcommittee to provide funds for the F.Y. 1990 budget request of $591.5 million for nuclear R&D programs. Funds are vitally needed to continue development of advanced nuclear technology. Advanced technology is essential for continued development and maintenance of a viable nuclear industry. Nuclear power now provides about 20 percent of our nation's electrical needs and is vital to our economy. We urge the Subcommittee to provide all the funds requested for the following programs:

- o $24.0 million for light water reactors.
- o $32.7 million for advanced reactors.
- o $45.0 million for space/defense power systems.
- o $60.2 million for advanced nuclear systems.
- o $18.0 million for facilities.
- o $238.6 million for remedial action.

We thank the Subcommittee for its continued support of advanced light water reactors (ALWR) and the Modular High Temperature Gas Reactor (MHTGR). NRECA is an active member of the Electric Power Research Institute (EPRI) and the Gas-Cooled Reactor Associates (GCRA). The New Advanced Reactor offers passive and inherent safety that excludes the possibility of core meltdown, the need for emergency evacuation plans, and assures economic nuclear power in small modular increments, which can be factory fabricated. We believe these technologies will help reestablish a new political consensus favoring nuclear power.

We would urge the Committee to increase the funding for the ALWR by $40 million to match last year's level and add $20 million for the HTGK to continue these vital programs.

Clean Coal Technology

We support the continued funding of the 5-year $2.5 billion clean coal program to expand the number of commercially available technologies for reducing sulfur and nitrogen oxides emissions from coal-fired power plants. We support the funding of this program through the Department of Energy that includes the specific request of $1.2 billion of advance appropriations -- $600 million for F.Y. 1991 and $600 million for F.Y. 1992.

I thank the Subcommittee for the opportunity to present this testimony.

LETTER FROM ELBERT T. GILL, JR., COMMISSIONER, TENNESSEE DEPARTMENT OF CONSERVATION

May 2, 1989

The Honorable Bennett Johnston
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Senator Johnston:

The Tennessee Conservation Commission, which meets periodically to review and recommend actions to enhance the Tennessee Department of Conservation's programs, has asked me to write you concerning channelization work by the Corps of Engineers in West Tennessee. Our Commission noted that the Wildlife Management Institute (of Washington, DC) recently commissioned a legal assessment to determine what modifications of practice with channelization projects, as undertaken by the Corps, would trigger a requirement for non-federal cost sharing. Based on the Institute's analysis, our Commission concluded that use of widely supported Stream Obstruction Removal Guidelines (SORG) could be funded to correct stream obstructions and other problems in West Tennessee tributaries without requiring local cost sharing. Significantly less disruptive and less costly measures outlined in the SORG are supported by an impressive list of responsible conservation organizations.

Our Commission encourages you to urge the Corps of Engineers to substitute the SORG measures for their plans for rechannelization in the West Tennessee Tributaries Project. Our Commission believes that the less intensive measures would satisfy the need for obstruction removal while at the same time provide protection, and improve the hydrology and aquatic biology of the streams being treated. Enclosed is a copy of the Commission's resolution of April 5, 1988 describing their views on the subject.

Thank you for any attention you may give to this matter.

Sincerely,

Elbert T. Gill

ELBERT T. GILL, JR.
Commissioner

RESOLUTION

TENNESSEE CONSERVATION COMMISSION

WHEREAS, streams sometimes develop flow impediments which may cause flooding, and

WHEREAS, flow impediments may need to be corrected, and

WHEREAS, wholesale channelization is an outmoded method used to correct stream flow and prevent costly flooding, and

WHEREAS, channelization of streams in West Tennessee has resulted in serious environmental impacts causing loss of fish and wildlife habitats, drainage and loss of valuable forested wetlands, increased soil erosion of farmland and streambanks, movements of pesticides and fertilizers into streams degrading water quality, and

WHEREAS, channelization is a serious threat to the natural resources in West Tennessee, and

WHEREAS, an environmentally sensitive method named Stream Obstruction Removal Guidelines has been developed that can correct stream flow problems and provide ample flood relief and avoid the harmful effects of channelization, and

WHEREAS, the Obion-Forked Deer Basin Authority has successfully used stream renovation techniques supported by landowners;

THEREFORE BE IT RESOLVED, that the Tennessee Conservation Commission opposes channelization, and

BE IT FURTHER RESOLVED, that the Conservation Commission will support the use of the Stream Obstruction Removal Guidelines as the method to be used where stream flow problems must be corrected, and

BE IT FURTHER RESOLVED, that the Commission urges the Department of Conservation and Governor Ned McWherter to take actions to oppose channelization projects and to recommend use of the Stream Obstruction Removal Guidelines when proposals are made to perform work in stream channels.

Adopted this 5th day of April, 1988.

John Hardcastle, Chairman

Judy Shuford, Secretary

STATEMENT OF RIVERS UNLIMITED

Rivers Unlimited is an Ohio statewide group of some forty organizations, founded by farmers, scientists, riverine landowners, educators and conservation-minded citizens. Since 1972 we have appeared before or directed testimony to your Committee against projects at:

Mill Creek (Delaware and Union Counties)
Salt Creek (Vinton and Ross Counties)
Whiteoak Creek, near Georgetown
Utica, on the Licking River

All of these Huntington District projects are now deauthorized. Each in its turn had been promoted as a promise of economic success and the answer to flooding. But none enjoyed local support, even when the federal cost share was larger, and now that they are gone there have been neither flood disasters nor attempts to revive the projects.

The Logan (channelization) project is similarly unwanted, by virtue of two separate votes by Logan City Council and concerted opposition by various organizations.*

While we have heard that Logan is not in the budget for funding, but its sister project, Nelsonville, had been but no longer may be - we don't know - we are asking that Nelsonville's $2.4 million budget funds not be transferred to the Logan project and not be appropriated. We ask this for the following reasons:

1) Flood-prevention benefits are already realized owing to the construction in 1968 of U.S. Route 33 which acts as a 100-year flood protection levee, plus some 22 upstream retention structures

on Rush Creek, a main branch of the Hocking River. There has been no damaging flood since 1968.

This alone renders the benefit/cost ratio of 1.2 obsolete. Note that this ratio is based on estimated annual flood damage of $800,000 when there has been no damage for 20 years.

2) This project - if there ever were a flood - would increase downstream flooding and damage to Haydenville (see article, Exhibit A, attached).

3) The industry that has lobbied most vigorously and is the chief sponsor for the Logan project has survived for over four generations in the flood plain. It is now protected by 4-lane highway U.S. 33 and other changes that have taken place since 1968 - the protection mentioned in 1) above.

4) Alternatives for any marginal need for flood damage protection for Logan - at far lower cost - have not been considered - such as a flood gate at Old Town Creek, favored by the number two employer in the area.

5) The project will contravene the Clean Water Act. It will cause major water quality degradation, particularly in respect to non-point source pollution. According to the U.S. Fish and Wildlife Service, this is not now a polluted stream. This is addressed in more detail by news article, Exhibit B and memo from Ohio EPA, Exhibit C attached.

6) This type of project is a throwback to the worst practises of the Army Corps of Engineers - what we used to see back in the 60's. Where the perpetual threat of a project prevents a community from proceeding with orderly development. Where it forecloses options such as tourism and recreation and ties up monies that could be used for genuine public benefit.

7) The project sponsor, the Hocking Conservancy District, has committed the community to a local cost share in the face of the community's strong disapproval. There is no community support for the local match. Attached articles show the depth of local opposition and concern.

8) This is not a wealthy region of Ohio. The up-front $2,000,000 would represent a shocking misuse of scarce local funds, much needed for police, wastewater treatment, schools and mental health. This project, for this area, should top the list for deauthorization as soon as the law permits.

We thank you for any consideration you may give our views and will be pleased to provide further documentation on any of the points raised.

[From Logan, OH, Daily, Dec. 21, 1988]

HAYDENVILLE FIRM OPPOSES LOGAN FLOOD CONTROL PROJECT

By JIM MYERS
Daily News Editor

The head of a Haydenville-based firm has taken a stand against the proposed Logan flood protection project on the grounds that it could shift flooding problems downstream to the Green Twp. community.

In a letter read before Logan City Council Tuesday night, Eric B. Miller, president of Sawmiller Inc., stated:

"It is with great regret that I must write this letter of non-support for the Logan flood protection program.

"I am sympathetic to the support that has been given by Logan area businesses and probably would be somewhat more supportive myself if located in the immediate area of benefit.

"However, as always, there is another side of the story to be considered.

"Under flood conditions, there is a fixed quantity of water that must be dealt with.

"If in a populous area, a river is straightened, widened, etc., to increase the throughput at that particular point, the problem is simply shifted somewhere downstream. In this case, the problem will be Haydenville.

"Haydenville, this poor downtrodden and largely neglected community of vast historical significance (on the National Register) and home to hundreds of Hocking Countians and two manufacturing firms, needs another problem like you need another hole in your head.

"The Hocking River runs fairly straight from Logan to Haydenville, where it begins a series of horseshoe curves and 180-degree cutbacks which finally end just southeast of town near Laurel Run Rd.

"The flow through this part of the valley is vastly impeded on a natural basis.

"For every improvement made to decrease Logan's problems, another nail is driven into the Haydenville coffin.

"Yes, we realize that we are talking about tradeoffs here, such as 6,000 people vs. a few hundred and tens of businesses vs. two.

"But what is brought into question is whether Logan itself really needs this 'improvement.'

"As a businessman who daily is dependent upon knowing his costs and who is being held responsible for these costs by the competitive marketplace, I find the cost information concerning this project to be very sketchy, indefinite and downright scary due to the lack of credibility.

"I would appreciate all people involved giving Haydenville appropriate consideration in the decision-making process."

In response, Councilman Keith Fox said the U.S. Army Corps of Engineers, during last week's public meeting on the Hocking River project, stated flooding wouldn't be any worse in the Haydenville area than it is now.

Councilman Alice Montgomery pointed out some situations and said she feels it could have a negative effect on Haydenville.

"I've had a lot of calls that Council's doing the right thing," Coun-

cilman James Kelch said in relation to Council's earlier stand against the project. "I still think we are," he added.

"I became convinced it could become a very good thing for the city of Logan," Fox responded, pointing to the recreational aspects.

"For $2 million, we have an opportunity to have $8 million spent right here. It could add significantly to the economy of the area," Fox said.

The project could cost $15 million now, Kelch returned. "They haven't given us a true figure. That's what everybody's concerned about," he added.

Councilman James Stewart also noted that $2 million of the $8 million "is coming out of our pockets."

"Give us the information on what is to be assessed and how much, and then we can make a decision," Stewart declared.

Councilman Robert Schultz also reminded fellow members about the perpetual cost factor in maintaining any channel project.

[From Logan, OH, Daily, Dec. 22, 1988]

BOWLING GREEN PROF REVIEWS LOGAN FLOOD CONTROL PROPOSAL

City Council has received a letter from a Bowling Green State University professor, reviewing biological aspects of the proposed Logan flood protection project on the Hocking River.

Dr. Karl Schurr, BGSU Department of Biological Sciences, states in his letter that he was asked by local citizens to review the nature of the proposed Logan channelization project.

"Since I am paid through tax funds by the state of Ohio, it is appropriate to give advice where my talents and research experience mesh with the question at hand," Schurr states.

His letter continues:

"I am trained in aquatic biology, toxicology and those aspects of bacteriology related to stream pollution.

"Several scientists have become concerned by the channelization of Ohio streams. Circa 500 miles of stream channelizations are completed each year, according to one Ohio official.

"The additive effect is to degrade Ohio water resources. You will appreciate that one of our best characteristics is plentiful water resources.

"If we are to bring back industry to Ohio from the Sun Belt, it must be on a basis of adequate clean water.

"Please consider the following:

"1. We are cross-checking the calculations and supposed benefits of the following channelization plans—Little Auglaize River, Flat Rock Creek, Middle Branch of the Auglaize, Auglaize River (north area), Prairie-Hoaglin streams, Blanchard River and Riley Creek floodplain management, and Beaver Creek floodplain management. These are detailed plans provided by those promoting these projects.

"In every case, we found benefits magnified by errors in math. The floodplain is the only area flooded. Excessive claims for protection were written into the documents. The percent protection was then extrapolated to areas outside the floodplain.

"Adequate flow studies were not conducted. This often has resulted in flooding of the downstream area that was ignored by the project plans.

"Since this is a pervasive flaw in all of the project plans, it would appear to a critical person that one way to secure a positive cost-benefit is to distort the figures dishonestly.

"2. My own data from several channelization projects shows very high sediment levels from erosion. As an example, 5,400 percent higher when compared to the unchannelized stream immediately upstream from the project.

"3. These sediments have significant effects. One project had an increase of BOD (biological oxygen demand) of 3.3 per 100 meters of the project length.

"4. Bacteria prosper in the nutrients released by channelizations. They attach to sediments and grow in the warmer water resulting from lack of tree cover.

"An example was 30 fecal coliforms per liter in the natural stream, which increased to 6,000 per liter and to "too high to count" after the project.

"Channelizations destroy all of the normal bacterial-eating species in a stream.

"You will note that changes of this extent in bacterial populations may cause a re-evaluation of the sewage treatment by your city.

"Promoting a channelization may result in Logan, Ohio, having to add on more sewage treatment capacity or build a new sewage treatment facility.

"5. If there are any toxic wastes in the effluent from your city, the natural stream may dilute them sufficiently to prevent sanctions by government agencies.

"However, channelizations carry water very efficiently and lower water levels are common after a channelization and during summer weather.

"6. A chief executive officer contemplating the construction of new business in a town is influenced by the whole picture.

"Not only will he or she consider labor costs, taxes and inexpensive land for the construction site, he-she will also want to know about water quality, if a new sewage treatment plant is going to be necessary and what the appearance of the town may be.

"Channelizations tend to look like a war zone and recreational use of the natural stream is lost.

"Few other states are active in promoting channelizations as is Ohio. The officials in Ohio are backware and the destruction of our water resources, as well as our natural streams, continues because people we expect to be leaders are ignorant of the consequences.

"7. There is a relationship to national economics. The $6 million-plus of federal funding for the project may seem small.

On the other hand, we are approaching $3 trillion in national debt. Even the interest on this debt is destroying our national economy.

"I don't think the use of $6 million for a questional project is in the best interests of our nation.

"If the funds were to be spent for better sewage treatment or for some actual benefit (a new hospital for veterans, a better jail, etc.), it would make some sense.

"To increase the national debt, and to injure your water resources at the same time, seems nonsensical.

"Certainly your representative to Washington can think of a better way to spend federal money in your district."

Dr. Schurr further stated that extensive documentation of his statements is available.

LETTER FROM EDGAR E. DENNIS, MAYOR, LOGAN, OH

March 31, 1989

Mr. Terry Courtney, Executive Secretary
Hocking Conservancy District
Nelsonville, Ohio 45764

Dear Mr. Courtney:

We are writing to inquire about the state of the Logan Flood Control Project. Is this project still being pushed and supported by the Conservancy District?

Mr. Shumaker, your attorney acting as your official spokesman, stated at a public meeting that the Logan Flood Control Project would not be undertaken if it did not have the support of council. As you know the Logan City Council on August 23, 1988 passed a resolution against the flood project by a six to one vote.

We do not believe that there is a need for a flood control project, but even if there was a need, the community could not afford it. We have more pressing issues such as finding an adequate facility for our police department and upgrading our wastewater treatment plant that need the limited financial resources that the city has at its disposal.

We are asking for a written response to the following question: Is the Hocking Conservancy District honoring the resolution passed by the Logan City Council?

As you know the flood control project is of great concern to our community and would appreciate a prompt response.

Sincerely,

Edgar E. Dennis

Edgar E. Dennis
Mayor

STATEMENT OF THE ASSOCIATION OF STATE FLOODPLAIN MANAGERS

The Association of State Floodplain Managers is the only national organization of state and local officials responsible for managing flood-prone areas. We represent the state and local agencies who work to reduce and prevent flood damages.

In an average year, floods kill 150 people and cost the country over $5 billion in property damages. Floods have been and continue to be a tremendous burden on the nation's taxpayers. The federal government alone spends over $1 billion each year in disaster assistance, subsidized flood insurance, and flood control projects. Fifty years of experience with federal floodplain programs have shown that the best way to prevent and reduce flood losses and to minimize federal expenditures is to have effective state and local programs.

There are two items in the FY'90 Corps of Engineers' appropriations that deserve special attention because they are so important to flood loss reduction and state and local efforts. In both cases, programs with a relatively small federal expenditure will result in very large federal savings through the prevention or reduction of damages and death due to floods.

This paper provides background information on why we support:

1. Elimination of the proposed cost sharing and restoration of funding for the Floodplain Management Services Program (FPMS) to the $10 million level.

2. Elimination of the proposed cost sharing and restoration of funding for the Planning Assistance to States Program (Section 22 of the Water Resources Development Act of 1974) to the $5 million level.

The Cost Sharing Issue

In recognition of the value of the FPMS program, the Administration and Congress increased the FY'89 funds to $10 million. The current proposal to reduce the Appropriations to $5 million on the belief that 50/50 cost sharing will result in the same level of services is unrealistic.

The Floodplain Management Services Program and the Planning Assistance to States Program are not grant programs to states that fund state staff, as is the case with other cost sharing programs. The program funds are used for salaries of Corps staff who provide expert technical services to states, communities, other federal agencies and the private sector to achieve federal objectives. Simply because those objectives may also fit some state and local needs does not mean that a cost sharing require-

ment makes sense. State and local governments already pick up the lion's share of the cost for administering nonstructural flood hazard reduction and resource planning programs. Some state programs have budgets around a million dollars, yet are still inadequate for demand. These budgets are used to develop and administer state standards, assist local communities to adopt and administer regulations, and train state and local staffs.

Over the years, a strong federal/state/local partnership has been carefully forged to pool ALL available resources in addressing the nation's ever increasing flood losses and the threats of floods to loss of life and protection of health and safety. Each level of government must do its part, building on their respective strengths. A key strength of the federal government is the technical expertise of the Corps of Engineers in the District offices throughout the nation. The federal mandate is to use that expertise to assist the citizens, locals and states who are working to guide development so it is NOT subject to the risk of flooding.

States and locals should not be paying the salaries of federal employees. That makes it look as if the federal government is in competition with consulting engineering firms, which is not the case. If the federal government has a legitimate role to play in order to meet federal objectives -in the case of FPMS, to reduce federal costs for disaster relief and the construction of huge federally-funded flood control structures -it should use its staff to do that, and not expect state and local governments to fund federal staff.

We strongly urge Congress and the federal government to continue the commitment to shoulder their portion of the partnership effort to reduce flood losses in the nation and to promote comprehensive water resource planning incorporating multiple objectives of flood control, water supply, etc.

1. Floodplain Management Services Program. The Corps of Engineers' Floodplain Management Services staff responds to requests for assistance from state and local officials, citizens, and the private sector in order to promote prudent floodplain development. The Program is unique and most helpful for reducing federal costs for flood loss recovery. It can respond on short notice to day-to-day problems through a network of 50 District offices throughout the nation. Its skilled engineers and planners can provide the latest technical information on a variety of flood protection and avoidance measures.

The Corps is providing around 90,000 responses to requests for assistance each year. Most of these responses provide information on a site's flood hazard and guidance on how to best prevent or reduce flood damages or other negative impacts on the natural and beneficial values of floodplains, including wetlands. States and Communities without expertise also request help from the Corps to prepare flood warning, evacuation and flood hazard mitigation programs.

The benefits of this program greatly outweigh the costs. Fifteen minutes of technical advice to a property owner can result in measures that prevent thousands of dollars in flood damage. A day spent with a local official to develop better floodplain regulations or to critique a flood evacuation plan can result in hundreds of thousands of dollars in flood protection. The more property owners and local officials are helped and encouraged, the less they will need federal disaster assistance or federally funded flood control projects.

The 50/50 cost sharing is being proposed by the Administration to implement the "beneficiary pay principle". **We believe that the federal treasury is, by far, the key beneficiary, even a thousand fold greater than the 50 percent they propose to provide.**

Flood Plain Management Services are budgeted as a line item under "General Investigations, Collection and Study of Basic Data". Unlike other Corps' line items, there is no relatively simple or straight forward way to collect the costs from specific beneficiaries of such a large and diverse constituency. In many cases, the costs of collecting would be even more than the cost of providing the services outright.

Unless the funds for this program are restored, the Corps, in addition to drastically reducing the general technical services it provides, will also have to cut other types of assistance, such as critically needed ongoing hurricane evacuation studies along the entire east and Gulf coasts, flood hazard studies along the Great Lakes and flood warning studies in flash flood areas.

The Unified National Program for Floodplain Management, developed by the federal government years ago, pointed out the need for a federal/state/local partnership in order to reduce the nation's ever increasing flood losses and threats to loss of life, public health and safety.

Because cost sharing for these programs makes no sense, we can expect little or no participation from state and local governments or the private sector, particularly individuals. As a result, Corps services to states will be cut to almost nothing and services to those with the resources to cost share will be cut in half. This will mean:

* 40,000 to 50,000 requests for advice and assistance to build safer structures will go unanswered;
* billions of dollars worth of structures may be inadequately protected from flooding;
* not only will flood damages increase, federal, state and local disaster and disaster recovery costs will also increase as flood damages increase;
* hurricane evacuation studies will be delayed or dropped, such as the study for New Orleans and the surrounding parishes;
* acquiring flood data on the Great Lakes will be delayed.

Recommendation: Because of the need for the Corps' Floodplain Management Services and the relative small cost to the federal budget compared to the benefits gained, we strongly urge:

1. that Congress eliminate the proposed cost sharing for this program, and

2. that Congress restore funding for the FY'90 budget to at least the $10 million level.

2. Planning Assistance to States Program. The Planning Assistance to States Program, authorized by Section 22 of the Water Resources Development Act of 1974, is budgeted under "Cooperation with other Federal Agencies, States and non-Federal Interests" for $2,500,000. This Program uses Corps staff and expertise to encourage and promote broad, statewide comprehensive water resources planning throughout the nation, to avoid duplication of federal/state efforts and to achieve federal and state goals. The planning assistance provided by the Corps under this Program encompasses the full array of planning methodologies embodied in the development of comprehensive multi-objective water resource projects and related areas for which the Corps has planning expertise. The Program provides assistance that supports and supplements state efforts and, in many cases, becomes an integral part of the state's overall plan. Assistance is provided without cost as an incentive for the states to use the Program and take action at the state level to resolve identified water resource problems such as flood control, water supply, etc. In recent years, the Corps has provided assistance annually to all states and all U.S. Territories.

Like the Floodplain Management Services Program, funding for the Section 22 Program is also used to pay the salaries of Corps of Engineers staff in District offices throughout the nation. As water resource regulation, protection and enforcement programs become more complex, and as more and more development pressure is brought to bear on our limited water resources, the need to develop comprehensive plans for the nation's water resources increases.

Again, state funds for these kinds of activities are fully committed for undertaking their role in water resource protection. Few, if any, states are likely to provide funds to pay the salaries of federal agencies, especially when the states perceive there is a legitimate federal role that should and must be appropriately funded by Congress.

Recommendation: Because of the legitimate federal role and need for programs in this vital area of water resource planning, we urge:

1. that Congress eliminate the proposed cost sharing for this "Planning Assistance to States Program"; and

2. that Congress restore funding for this program in the FY'90 budget to $5 million.

If there are any questions or comments on this testimony, please call Larry A. Larson, Executive Director of the Association of State Floodplain Managers, at (608) 266-1926.

OHIO EPA

INTER OFFICE COMMUNICATION

TO: Colleen Crook, Ohio EPA Section 401 Coordinator

FROM: Bob Cottrill, SEDO B.C. DATE: 8/17/88

SUBJECT: Section 401 Certification for Flood Protection Work in the Hocking River at Nelsonville

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I recommend that we deny the Section 401 Certification for flood protection work in the Hocking River at Nelsonville. The flood protection work will be accomplished by channelizing almost three (3) miles of the Hocking River. The channel will be 200' wide for a distance of 14,600'.

It appears that channelization will modify the use designation of the Hocking River and will violate our antidegradation policy. The proposed revisions to the Ohio Water Quality Standards establish a 'Modified Warmwater' use designation for aquatic life habitat. The section states in part "These are waters that are incapable of fully supporting balanced reproducing warmwater fish and associated vertebrate and invertebrate organisms and plants on an annual basis due to irretrievable modifications of the physical habitat. Such modifications are of a long-lasting duration (i.e., twenty years or longer) and may include the following examples: extensive stream channel modification activities permitted under Sections 401 and 404 of the Act,----".

The 'Modified Warmwater' use designation is being established partly due to several channelization projects in northwest Ohio which have had their aquatic life habitat use reduced by the projects. The average daily dissolved oxygen for the 'Modified Warmwaters' use is only 4.0 mg/l instead of 5.0 mg/l. The northwest Ohio projects demonstrate that channelization degrades the water quality and/or the use of the water. Thus our antidegradation policy would dictate that we deny the 401 Certification.

I understand that we have already certified the Logan project. I didn't see a copy of that proposal and don't know if there is extensive channel modification involved. However, if there is enough modification to degrade the use or quality of the river, we should consider withdrawing the certification.

SUBCOMMITTEE RECESS

Senator REID. The subcommittee stands in recess until 2 p.m., May 3.

[Whereupon, at 11:40 a.m., the subcommittee was recessed, to reconvene at 2 p.m., Wednesday, May 3.]

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